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GARDEN BULBS
IN COLOR







A COLORFUL BORDER OF HARDY BULBS

GARDEN BULBS IN COLOR

BY

J. HORACE McFARLAND, L.H.D.

R. MARION HATTON

DANIEL J. FOLEY

DESIGNED BY WALT R. HUBER

635



J. HORACE McFARLAND COMPANY
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HARRISBURG, PA.

TO OUR ASSOCIATES AT THE
Mount Pleasant Press
THIS BOOK IS MOST GRATEFULLY
DEDICATED



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WE wish to acknowledge the coöperation of the following firms in making possible the use of many of the color plates in this book.

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Grateful acknowledgment is also made to the New England Gladiolus Society for permission to reprint the poem, "The Legend of the Gladiolus," by E. E. Brown, which appeared in the 1936 issue of their yearbook, "The Gladiolus."

FOREWORD



NEW garden books appear almost daily, and many of them are of value to the reader, or at least a pleasure while being read. Nearly all of them, however, suffer from one great fault—a lack of adequate illustrations. It is not because the authors do not wish to have proper illustrations, but because it is so difficult to get either good photographs or drawings. Books well illustrated in color are not numerous, and they are high in price. It has been the despair of countless authors that they could not have all of their illustrations in natural color, for no amount of beautiful English can take the place of a visual demonstration, not only of the form of the flower but of the color of its various parts.

It is, therefore, a delight to know that Dr. J. Horace McFarland, whose work in horticulture is familiar to all, has herewith presented a companion volume to his "Roses of the World in Color," and to "Garden Flowers in Color," one of the most successful garden books ever published. It is a special joy to those of us who have so long and happily grown bulbs of all types that this book should deal with daffodils, tulips, lilies, and the multitude of small spring bulbs.

Dr. McFarland has brought to this new book the same care and accuracy which characterizes his recent works. Like the two previous books, the publication is possible only because the Mount Pleasant Press, under his control, has for so many years published well-illustrated bulb catalogues for many leading seed-houses, bulb dealers and nurseries.

To be able to get faithful photographs and accurate color reproductions for his work, Dr. McFarland has long conducted series of tests of tulip and other bulbs in his own Breeze Hill Gardens, where literally thousands of varieties have been grown and photographed. The artists from Mount Pleasant Press have been able to work directly in the garden or from flowers freshly cut only a few moments before they were brought into the studio. For this reason the colors are very true to variety. That the pictures are not new or original for this book will not, in my opinion, detract from the pleasure which it

gives to gardeners or from its real usefulness. Beginners will want this book because it illustrates and defines the different types of daffodils—the Trumpets, the Incomps, the Barris, the Leedsis, etc.—and the different types of tulips, such as the Darwin, the Cottage, and the various “broken” tulips. The comprehensive presentation of lilies, and the broad survey of the less usual but very desirable bulbs not generally grown, adds to the value of the work.

Having written a good deal about bulbs, particularly daffodils, during the past ten or fifteen years, I envy very much anyone who can bring out a book of this character with such fine illustrations. I hope the book will have a wide sale, and that from it many beginners will get much garden inspiration.

JOHN C. WISTER



INTRODUCTION



TO ACQUAINT the amateur gardener with the floral richness and plant interest available in the great families of bulbs, corms, and tubers is the purpose of this book, prepared in the belief that a reasonably comprehensive study will prove rewarding. We would have more blooms on many more days of an even longer growing season through fuller use of the world's bulb treasures.

Peeping through the late winter snows with a promise of spring, and carrying on in great variety well into fall, the

flowering bulbs bring charm to the garden as well as brilliant colors and tall spires, modest and flamboyant—all available to spring like magic from the little brown bulb or the inconspicuous tuber that gives no hint in itself of what is to come. There is indeed a peculiar fascination in the self-contained bulb.

Far too many garden folk think only of the familiar bulbs and corms—the tulips, crocuses, lilies, hyacinths, gladiolus. Desirable as they are and widespread as is their use, they do but pleasantly introduce us to rare garden treasures, domestic as well as foreign, now made available through the courage and erudition of such plant scouts as Carl Purdy and the late Dr. Wilson.

This book rests, it should be said, on certain peculiar relations as to garden and illustrative resources that have been gathered in the course of more than a generation of horticultural practice within the walls of the Mount Pleasant Press, as well as at Breeze Hill Gardens. While a large majority of the subjects here treated are known to one or all of the authors through actual garden practice, there has been no hesitation in reaching beyond that wide experience into dependable sources of information concerning other flowering bulbs and tubers that somewhere have bloomed in beauty. It may truly be said, therefore, that the extended list here illustrated includes many worthy but little-known treasures. Nothing has been presented in this work, however, that is not somewhere commercially available.

Because the authors are incurably devoted to garden experiment,

to garden extension, indeed to garden adventure, it is hoped that these pages will induce many garden folk to try bulbous plants they do not know, and thus to branch out along relatively unfamiliar paths. But no certainties of success are assured here!

The nomenclature adopted is dominantly that of Bailey's "Hortus," save as a later word is used or special authorities followed, as, for example, Wilson's "Lilies of Eastern Asia," or "Lilies: Their Culture and Management," by Woodcock and Coutts. The trade lists of Dutch and American bulb merchants have been used as authority on tulips, and the yearbooks of the Royal Horticultural Society, as well as American authorities of repute, have been consulted and considered in respect to daffodils.

While holding firmly to a dislike for the "musts," "shoulds," and other necessities set up by the dry directions so often encountered, we have yet endeavored to include cultural suggestions for individual items. It is believed these are well worth following. There is, however, an intimate garden sense, a sort of sixth sense, it may be, by which the garden enthusiast comes rather instinctively to know what ought to be done under certain conditions. It is to this class that many of the unusual things presented in this book will especially appeal.

J. HORACE McFARLAND
R. MARION HATTON
DANIEL J. FOLEY



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BULBS THROUGH THE AGES



THE art of gardening, like all the manifestations of human progress, carries one back to the time before recorded history. Therefore its beginnings are not clearly defined. Such is the case also with the history of many of our garden plants and bulbs. The development of many of our modern hybrids is clearly recorded, but for the sources of the original plants we must lean heavily on tradition.

In Greek mythology we read of the fanciful origin of the narcissus. The boy Narcissus, we are told, was the son of the river god, Cephissus. A handsome and gallant youth he was, but quite vain, and, what seemed inexcusable, indifferent to the love which the goddess Echo had for him. She finally died of grief, and he was punished by being required to drink from a certain fountain, gazing into which he became so infatuated with his own beauty that, for some mythological reason, he pined away. The gods then transformed him into the flower we call narcissus.

Turning to actual historic records, we find that lilies were cherished in the ancient civilization of Crete more than a thousand years before the Christian era. The Egyptians used lilies in their funeral garlands. Together with hyacinths and narcissus, lilies had an important place in the gardens of the early Romans, who valued these flowers for their use in religious ceremonies.

In the Middle Ages the Madonna lily was so highly cherished that it became a symbol of purity in the Church. This familiar garden lily was frequently painted by medieval artists, mostly in connection with religious subjects.

We cherish the dainty crocus in our gardens for what it indicates in the change of seasons, but it is hardly as significant in our commerce as was the Saffron crocus (*C. sativus*) of the ancient world. The Phœnician merchants sold the scented stigmata in drug form at fancy prices throughout the world.

During and since the Renaissance, the introduction and culture of plants has been closely inter-related with the cultural progress of modern times.

The introduction of the tulip in the sixteenth century had much human interest. As related by the French botanist, Clusius, a Belgian merchant received in a bundle of cloth some unknown bulbs from Constantinople. Believing them to be onions, he had some of them cooked, and ate them with oil and vinegar. The remaining bulbs were incidentally planted in his vegetable garden, and then forgotten until they bloomed. When this happened the keen horticultural sense of a visiting merchant who saw the tulip blooms brought attention to the novel beauty of the flowers, and therefore this unknown merchant is credited with saving them for posterity. There is also an earlier account of an ambassador who brought bulbs from Constantinople to Vienna before 1572. Thus brought into cultivation, this comparatively unknown bulb caused the Holland tulip mania, which lasted from 1634-1637. (For further details, see page 3.) It should be realized that this manifestation of enthusiasm was based less on the beauty of the flower than on the passionate speculation which has given the tulip a definite place in history without contributing much to its real development.

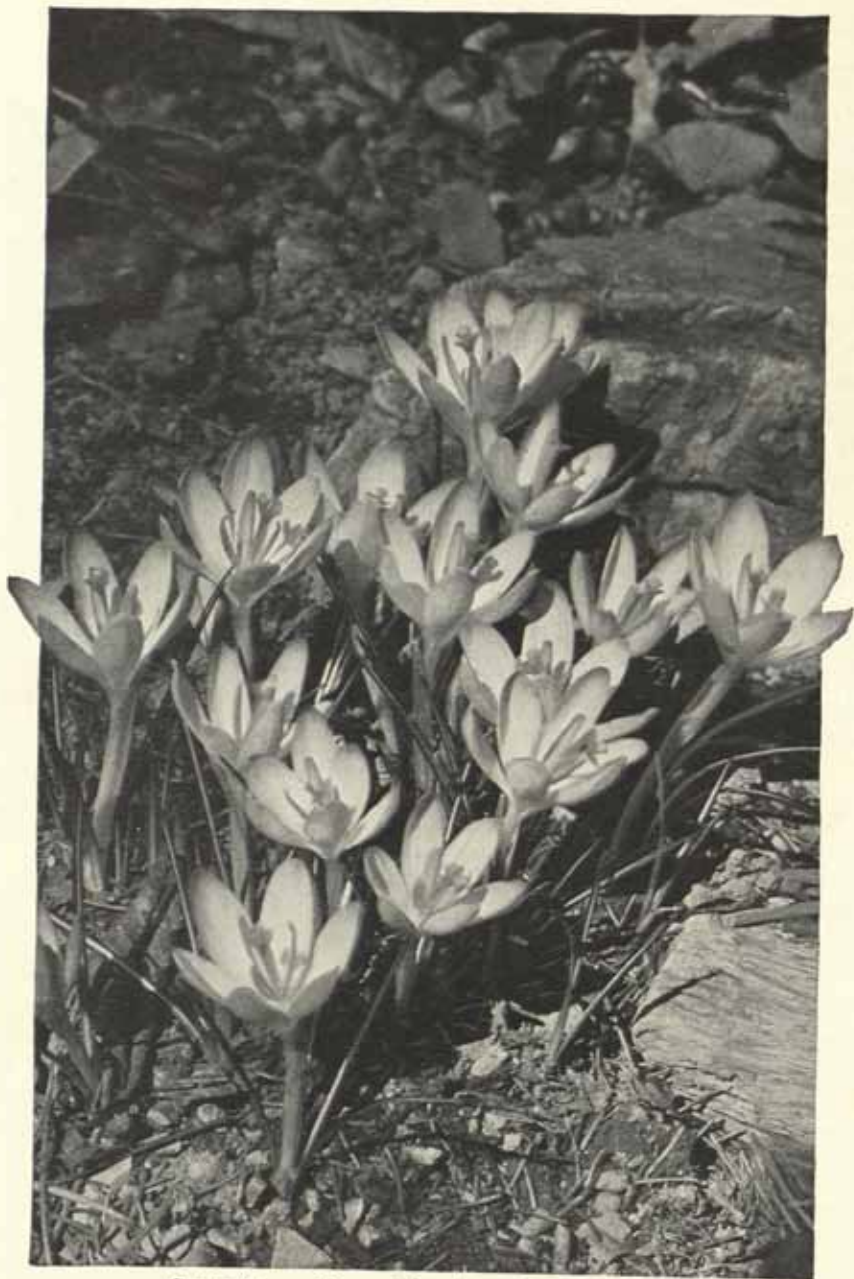
A study of early horticultural literature indicates that all plants were given medical "vertues" in the famous herbals, which were the major garden publications. Parkinson, Gerard, and others carried along fascinating bulb lore on the current of assumed medicinal usefulness.

As previously observed, all down through the ages merchants as well as explorers have contributed greatly to the enrichment of gardens. Ambassadors and scholars have also had a noble place in advancing the hobby of gardening as a never-ending source of delight. A cursory survey of his own garden will immediately convince the owner of the far-flung geographical area from which his plant treasures have been brought. As a result, twentieth-century gardens are distinctly cosmopolitan, like the great human melting-pot that we know to be typically American in our day.

In more recent times plant hunters have made their way and are yet adventuring to all parts of the globe, searching out new treasures for our gardens. The wide distribution of bulbs, corms, tubers, rhizomes, and other blooming plants has caused explorers and botanists to travel extensively. To the far-off deserts of Gobi and Sahara, to the remote parts of northern Siberia, as well as to China, Japan, and South Africa, plant collectors have made their way to learn more of nature's gifts to mankind.

In our own generation, one exploring plantsman stands out prominently for his many contributions to American and British gardens—namely, Dr. Ernest Henry Wilson, the late “keeper” of the Arnold Arboretum at Boston. He was brought from England by Prof. Charles Sprague Sargent, the founder of that beneficent institution, and commissioned to explore the Orient in the interest of American gardens. In 1910, Wilson made his fourth expedition to western China, a trip which nearly brought an end to all of his work. Searching for new plants in Hupeh, he was caught in an avalanche which swept him down the mountain, breaking a leg. As he lay helpless in the mountain path, forty mules stepped over him, but he was unharmed. His injured leg, treated as well as was possible at the home of the nearest missionary, healed slowly, and it was not until he returned to Boston that he had complete surgical attention. But in all this pain and confusion, Wilson made certain that the bulbs of the lily we know as the Regal lily, which he had discovered, were surely sent on their way. At the time these bulbs were thus brought to America there was little garden interest in lilies. It is not too much to attribute the new consideration for lilies to the keen plant-sense of Wilson.





Crocus Tomasinianus blooming at Breeze Hill on
Washington's Birthday

DEFINITIONS



DEFINITIONS are always more or less of a bugbear to the amateur gardener who loves the plants in his garden for their intrinsic beauty. To him the color of the flower and the foliage, and the form and general effect of the plant in question, are far more important than its botanical structure. To be sure, the various parts of the physical plant are important to him, but only in so far as they may relate to the need for special care or treatment.

In speaking of the various types of fleshy roots and underground stems, most gardeners use the term "bulb." To enable the amateur to differentiate between a bulb, a corm, a tuber, and a rhizome, certain definitions follow.

A *bulb* is a storage organ, composed either of a rosette of scales which overlap, as with a lily bulb, or of a series of completely enveloping coats or tunics, as one finds in a narcissus bulb.

More simply, a bulb may be thought of as a swollen underground stem, the scales of which are tightly clustered modified leaves containing food which is supplied to the developing bud. The structure of a bulb differs from that of a perennial root because the former has a considerable part of its food stored up before it begins to flower, whereas, with the typical perennial plant, few nutrients are stored; rather they are absorbed from the soil as the plant grows to maturity. However, the roots which develop at the base of a bulb are necessary for anchorage and for absorbing additional food.

Furthermore, within each bulb there is compressed in miniature form the stem, the leaves, and the flower-bud to complete one growing season or cycle, as may be seen by vertically cutting apart a tulip.

What are spoken of as *bulbils* are small bulbs borne in the axils of the leaves in certain cases, as with the tiger lily, or in the flower clusters. Bulbils should not be confused with *bulblets*, which are small bulbs developing usually from or close to a mature or mother bulb—usually at the side of the mature bulb.

A so-called gladiolus bulb is more correctly known as a *corm*. Corms, like true bulbs, are underground stems, but they differ in

structure in that they are neither scaly nor tunicated. Sometimes corms are called solid bulbs or bulbo-tubers. The small offshoots of corms, providing for their increase, are known as *cormels*.

A *rhizome* or *rootstock* may be compared to a side or lateral branch known as a *stolon* which creeps along the ground, eventually rooting and forming a new plant. When the stolon turns underground, it becomes a rhizome. Rhizomes have a starchy structure which provides for food-storage as well as for reproduction. Bearded iris and Solomon's seal are prime examples of rhizomes.

A *tuber* might well be considered an enlarged rhizome or underground stem containing food for the plant. Dahlias are often spoken of as tubers, but to be botanically correct they should be called tuberous roots. A true tuber is found in the Jerusalem artichoke and in the potato.



BULBS IN THE LANDSCAPE



WITHOUT presuming to state definitely how bulbs should be grouped in the average garden, it might not be amiss to suggest some principles for effective planting.

As a rule, in making a garden, the owner is aiming to create a series of living pictures which will change with the seasons. First to be considered is the design of the garden, which may be in a general way either formal or informal. Formal gardens bring to mind a feeling of symmetrical balance as to both form and color. Informal gardens suggest the

desirability of other arrangements—that is, a kind of balance that does not require the symmetrical grouping of plants. In formal gardens where straight lines predominate, the tendency is to plant bulbs in beds for massed color effects. To relieve the severity of line, informal foliage masses are often used in the background to lend an air of intimacy. Bulbs in small irregular groups at definite intervals may be used for color effects, especially among perennials. Such a treatment will tend to subdue cold formality.

Since most amateurs lean toward informal gardens, their problems tend to solve themselves. Small-flowering bulbs should be located with care if one would achieve an effective picture. Plant crocuses, scillas, chionodoxas, snowdrops, grape hyacinths, and winter aconites in drifts of fifty or more, or at least in clusters of a dozen. Tulips, narcissus, hyacinths, montbretias, and tigridias are most effective when planted in masses of at least ten or twelve. To enjoy the brilliant colors of flowering bulbs to best advantage, do not overlook the importance of foliage backgrounds.

Oftentimes dramatic effects can be achieved in the simplest garden by the use of a few well-placed bulbs. A cluster of *Tulipa fosteriana* Red Emperor is brilliant enough to be almost startling in the early spring garden. Clumps of *Auratum*, *Regal*, *Speciosum*, and *Tiger* lilies make striking accents in the perennial or shrub border. *Tigridias*, *montbretias*, *gladiolus*, and *dahlias* prolong the color pageant through the late summer and fall season. All these are at times grown for cut-flower use in straight rows, like vegetables.

As the years pass, more and more gardeners are giving attention to the lesser-known bulbs. They are learning that many of the bulbs native to western America, including the brodiaeas, the calochorti, the erythroniums, and the fritillarias, have a definite garden value. Then, too, the tender tuberous-rooted begonias are being used to great advantage for new color effects in shady gardens.

Bulbs like *Acidantha bicolor*, an overlooked gem of the iris family, the many species of allium, the autumn crocuses and colchicums, together with *Sternbergia lutea*, the autumn daffodil, and *Cooperia Drummondii*, the prairie lily, are finding a place in rock-gardens, there to add both brilliance and beauty if well placed.

In many window gardens bulbs may well be a more prominent feature. The Paper-White narcissus are widely used, but one seldom sees freesias, lachenalias, or the pendulous forms of tuberous begonias. Then there is *Ornithogalum thyrsoides*, the Chinchinchee or Wonder Flower, and the brilliant hybrids of amaryllis (more correctly *hippeastrum*). All these and others mentioned in this book are worthy of the attention of acute amateurs.



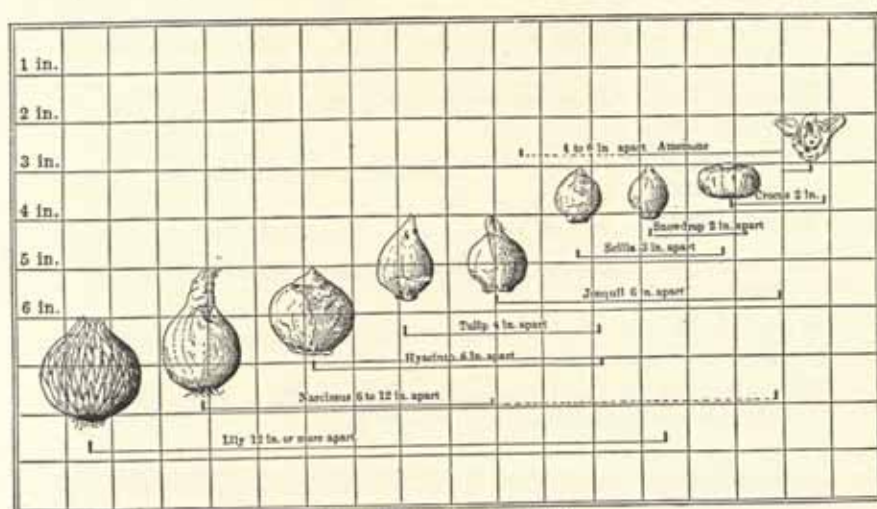
A NOTE ON PLANTING BULBS

BULBS, like all garden plants, require some attention to assure successful results. It will bear repeating to state that practically without exception ample drainage is a vital consideration. It is not enough to have fertile soil; the drainage must be assured and must be rapid.

The problem of mulching need offer no difficulties if the gardener realizes that the main purpose of a mulch is to prevent the bulbs from heaving, or changing ground-level, during mild periods in winter, with alternate thawing and freezing. A mulch is best applied after the ground has frozen in the late fall or early winter. Care and common sense must be exercised in removing it in spring, and it usually is better done gradually, rather than all at once. If protected bulbs remain wholly covered until considerable growth above ground has developed, weak foliage is likely to result.

The chart below shows the desirable depths and spacing for the familiar garden bulbs. It may be said that this chart is a safe planting guide for the average amateur, save where special soil or temperature conditions or actual experience convince one otherwise.

Many of our garden lilies of the stem-rooting type require deeper planting than the six inches specified here. In all cases the depths are specifically stated on pages 108 to 156.



Depths for planting bulbs

BIBLIOGRAPHY

SELDOM if ever does a single book on any phase of the great art of gardening satisfy the enthusiastic amateur. With this thought in mind, a selected list of important treatises on bulbs is given here. It should be noted also that Bailey's "Standard Cyclopedia of Horticulture," "Hortus," and Taylor's "Garden Dictionary" provide important information.

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Tulips





Tulips spread their color lavishly



King Harold (Darwin)

TULIPS

ALTHOUGH the various species, or "wild" Tulips, are natives of several Asiatic countries and the Mediterranean lands of south-eastern Europe, the origin of the modern hybrid is rather conjectural today. About all we do really know is that it was a well-advanced hybrid when seeds reached Vienna from Turkey in 1554. From Vienna it spread rapidly and reached Holland before the end of the sixteenth century.

As the word Tulip is from *tauleban* or *toliban*, the ancient Persian name for turban, and refers to the shape of an inverted flower, it would seem to have first become garden material under Persian culture, before passing on to Turkey. It is not only possible, but quite probable, that the Persians secured their first bulbs from the wild species abounding in near-by Turkestan and Bokhara.

The Tulip soon became the favorite flower of Holland, and the work of improvement begun over three centuries ago is still carried on by the Dutch growers, who now produce a large percentage of the millions of bulbs planted every year by gardeners and florists. (About 160,000,000 are used in the United States yearly.)

One of the craziest periods in all history was the so-called "Tulip mania" in Holland during the first half of the seventeenth century. By 1634, Tulips had become such a rage there that people were neglecting their ordinary affairs to gamble in them. Bulbs of the broken types brought fabulous prices; one variety, of which there were only two bulbs, sold for 5,500 florins (about \$3,080). Weird tales have come down to us of the amount of property, such as household goods, cheeses, and even livestock, traded for a single bulb.

Because self-colored Tulips during this period were without value, they were discarded by the growers. Fortunately, country people in Holland continued to grow them, and the original Darwins, introduced in 1887, were self-colored varieties collected from country gardens where they had been cherished for more than two centuries. Cottage Tulips originated in a similar way, for they were

collected from cottage gardens in England by Peter Barr, and in Ireland by W. B. Hartland.

Tulips may be planted any time in the fall or early winter that the ground is in condition to receive the bulbs. Being so accommodating in this respect, they are ideal material to take the place of late-blooming annuals and perennials.

It is well to dig the Tulip-bed deep and to work into the soil twenty-five pounds of Dolomite limestone for every thousand square feet of bed. If it is obtainable, very old manure—the kind designated as well rotted—may be added, but there should be a layer of clean soil between the manure and the bulbs. Never allow them to touch manure, or decay will surely result.

The bulbs are best set on a handful of coarse sand and covered with at least four inches of clean soil. The sand will keep the base of the bulb dry but allow the roots to search for moisture.

The easiest way to plant a solid bed is to remove six inches of soil, spot a handful of sand where each bulb is to go, set the bulbs on the sand, and shovel back the earth. Tulips may be left in the ground as long as they keep healthy and bloom well. Most gardeners, however, believing that the bulbs need a rest, take them up as soon as the foliage dies down in early summer, clean and dry them and store in a cool cellar, to replant again in late fall.



Darwin Tulips with violas and nepeta

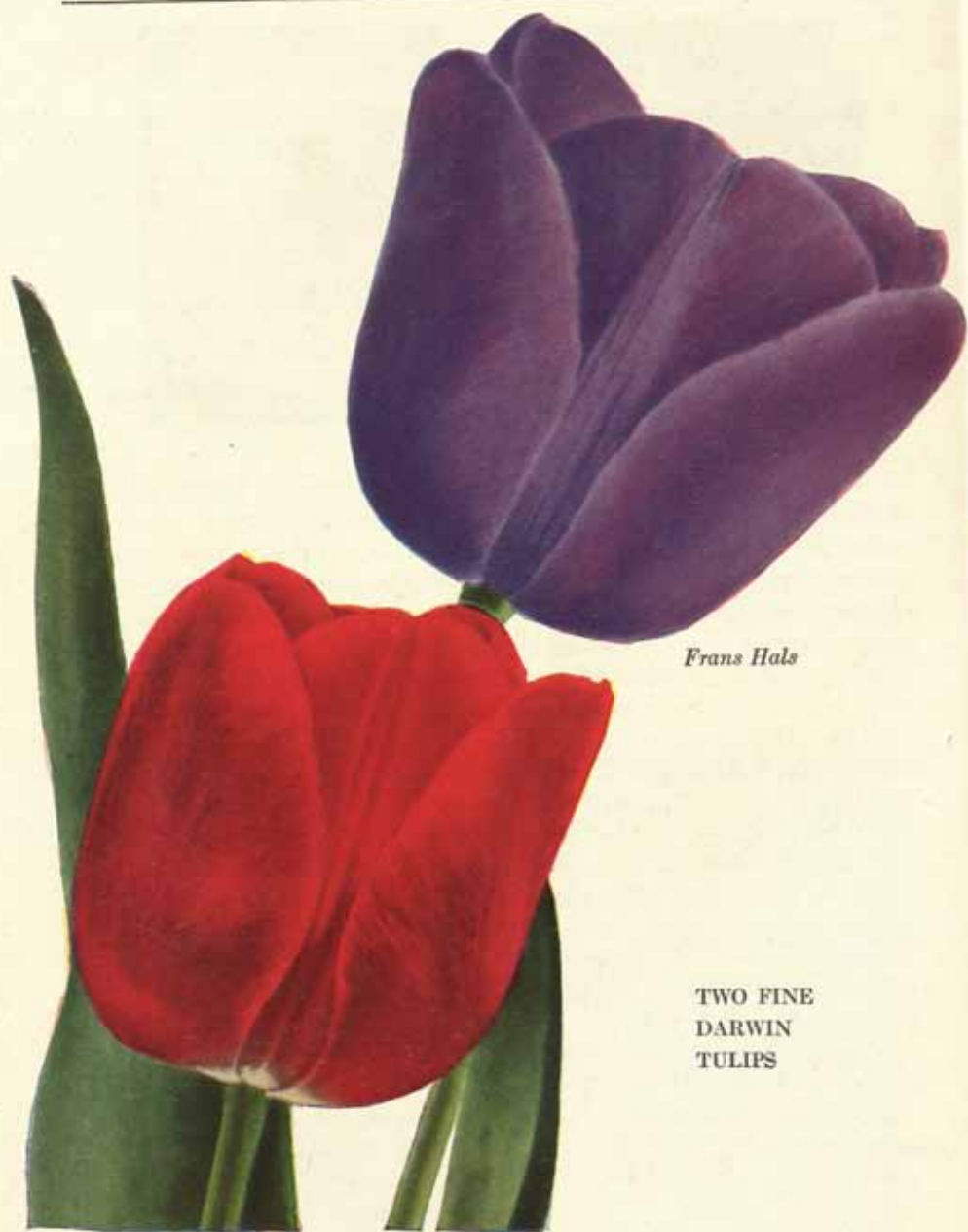
*Giant (Darwin)**Mrs. Krelage (Darwin)*

Although not as subject to disease as many plants, Tulips do have their troubles. The most annoying is the so-called "fire" (*Botrytis galanthina*) appearing on the foliage as a burnt spot which grows larger and gradually destroys the entire leaf. This is a fungous disease spread through carelessness and unsanitary conditions. Spraying with bordeaux, removing and destroying at once plants found to be diseased, and planting the bulbs in a new location, or at least in new soil each year, are methods of prevention.

The other trouble with Tulips is "breaking," where the self-colored flowers become striped or blotched. This is caused by a virus disease, and seems not to harm the bulb; it simply changes the flower into a Rembrandt, Bybloem, or Bizarre—types which are really lovely, and were once considered the finest.

While most people plant Tulips in solid beds of one color or in blocks of harmonizing shades to make a colorful picture during bloomtime, there are many other ways to use them. The stately Breeders and Darwins are especially good in suitable groups against evergreens and shrubbery. The brighter-colored Darwin varieties are particularly striking against dark evergreens. Try a mass of one variety between low-growing shrubs or in fence or hedge corners, and mingle them with the plants around the lily-pool; or group them here and there in the perennial border. Most good bulb catalogues give the average height of each variety—information valuable in planning color pictures.

Many of the various Tulip families catalogued today, including the Darwin and Cottage groups, are either selections from or



Frans Hals

TWO FINE
DARWIN
TULIPS

City of Haarlem



Kansas (Triumph)

developments of the Breeders, and while a few years ago the different families were easily distinguishable, this is not true today. Some varieties classed as Darwins could just as well be called Breeders, and vice versa. This also applies to other groups, and the plan used by some dealers of listing all late hybrids as "May-flowering Tulips" seems to be sensible.

In recent years the situation has been complicated by further classification. Thus, "Ideal" Darwin, "Giant" Breeder, Multi-flowered, Chinese Lantern, Chameleon, Lily-flowering, Mendel, Triumph, are some of those in 1937 catalogues which could very well be distributed among the Breeder, Cottage, and Darwin lists.



Clara Butt



*Princess
Elizabeth*



Centenaire

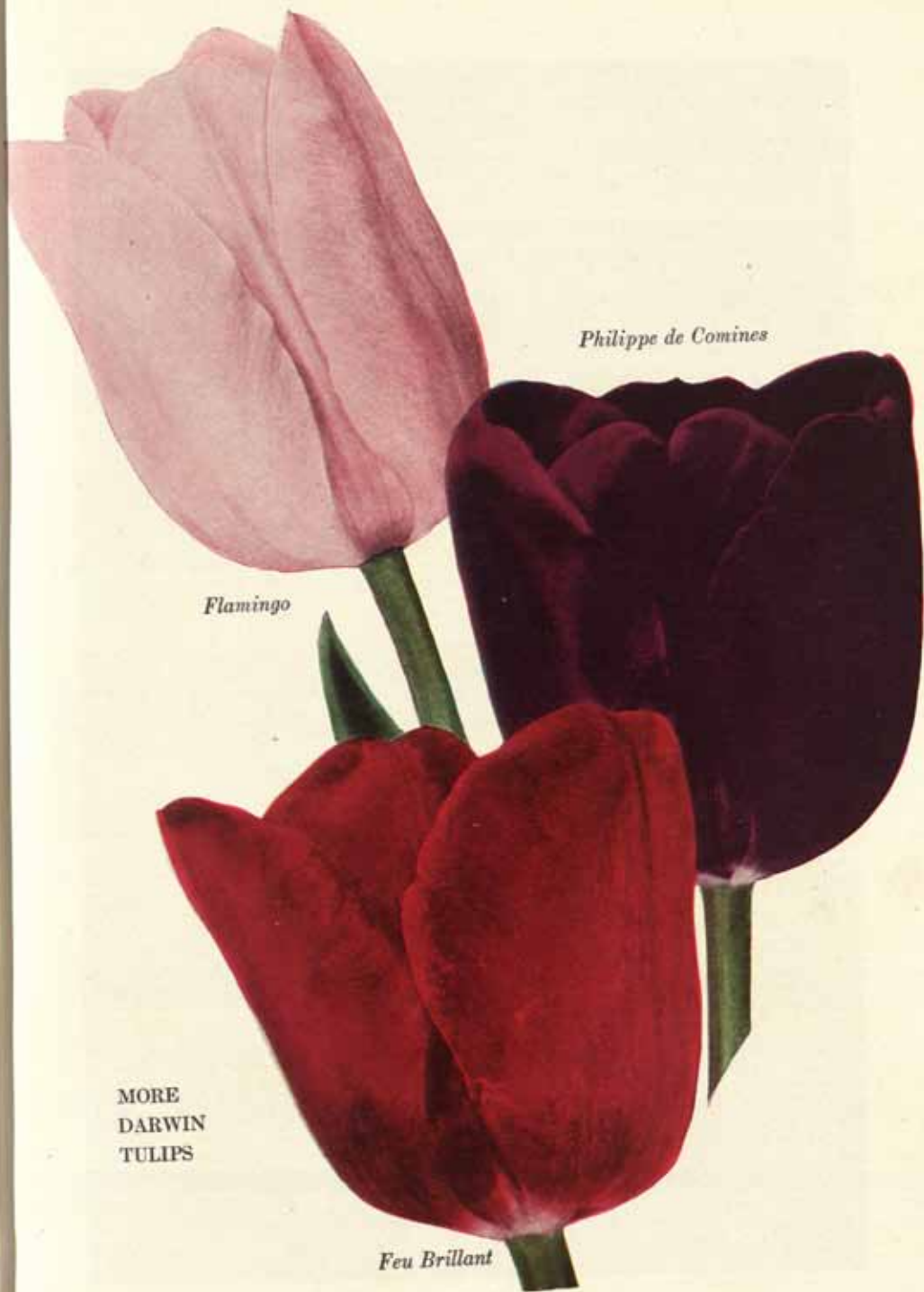
GOOD
DARWIN
TULIPS



*Mr. Farncombe
Sanders*



*President
Garfield*



Flamingo

Philippe de Comines

MORE
DARWIN
TULIPS

Feu Brillant



Border of Darwin Tulips, with William Copland in foreground

THE DARWIN TULIPS

The Darwin group, really a selection from the Breeders, now constitutes a vigorous family with large, shapely flowers in a wide range of self-colors. As their stems are long and strong, they are preferred, long-lasting cut-flowers, that form the mainstay of a Tulip planting.

The size and rich, clear colors of the Darwin flowers make them especially desirable for many garden uses. They bloom in May with the Breeder and the Cottage classes.

Hundreds of Darwin varieties are in commerce, in addition to the various sub-groups, which will, no doubt, sooner or later be returned to the Darwin classification or be distributed among the various standard classes. Brief mention will be made of a few varieties which have proved popular in each color-range.

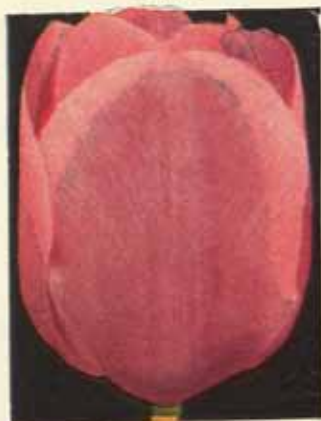
There are some brilliantly colored Darwins classed as reds, and anyone wishing to paint a strong color picture will find ample material in this range. For such a purpose the fiery crimson flowers of BARTIGON will be found useful. Because of its brilliancy and earliness it is widely used by florists for forcing, as also is the dark scarlet CITY OF HAARLEM (p. 6), the attractiveness of which is enhanced by a steel-blue base surrounded by a white halo. As its blooms are of unusual size, it is also a favorite for exhibition purposes where the coloring is effective.



Mrs. Potter Palmer



Foam



Matchless

Pretty close to perfection in the darker shades is ECLIPSE, with large, cupped flowers of crimson-maroon, showing a rich violet-blue base around black anthers. Another well-named variety is the early FEU BRILLANT (p. 9) with large, shapely blooms of true scarlet.

Two lovely Tulips which may belong either in the reds or the pinks are KING GEORGE V and LOUISE DE LA VALLIERE (p. 19), both described as cherry-rose, with a blue base. Another member of royalty, KING HAROLD (p. 3), has ruby-crimson flowers which the florists like to force, as they do the brilliant MR. FARNCOMBE SANDERS (p. 8) whose scarlet flowers with a white base form a contrast to the purple MRS. POTTER PALMER (p. 11) or the rosy carmine PRIDE OF HAARLEM. The cherry-rose flowers of TURNER are among the largest of the Darwins.

There are so many shades of pink that this section is too large to go into very deeply, but the following varieties are dependable and desirable. BARONNE DE LA TONNAYE (p. 14), DARLINGTON, MRS. KRELAGE (p. 5), and PRINCESS MARY are fine rose-pinks, while in other shades having rose as one of the tones, CAROLINE TESTOUT, soft rose; CENTENAIRE (p. 8), violet-rose; GRULLEMANS GIANT, cerise-rose; LA FIANCEE (p. 13), deep rose; MATCHLESS (p. 11), old-rose; PRINCESS ELIZABETH (p. 8), lilac-rose; ROTH, cerise-rose, and VENUS (p. 19), silvery rose, are popular varieties.

The lovely CLARA BUTT (p. 8), with clear pink flowers, has been a favorite for years, but the new BURGOMASTER DE VLUGT promises



Rev. H. Ewbank



Pride of Haarlem

to be an improvement, of about the same color.

Very distinct in their coloring are the silvery shell-pink *FLAMINGO* (p. 9) and *THE PEACH*, with egg-shaped flowers of clear pink over a white ground which have the appearance of a peach.

Of these, *CLARA BUTT*, *LA FIANCEE*, *MRS. KRELAGE*, and *VENUS* are largely used by the florists for forcing.

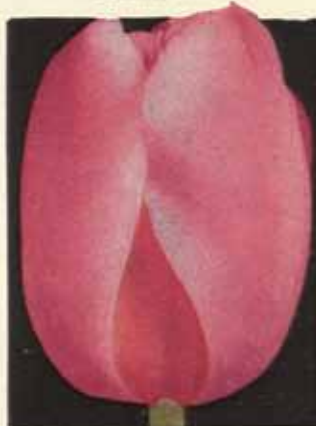
An increasing number of varieties are appearing in the mauve, lilac, lavender, and light violet shades dominated for so long both in gardens and under glass by the modest *REV. H. EWBANK* (p. 12), variously described as heliotrope-lilac, soft lavender-violet, and heliotrope, shaded lavender.

As catalogues seem to delight in confusing their readers in describing varieties in these mauve shades, the alphabetical order seems particularly necessary here. The large flowers of *BLUE GEM* are light violet, those of *DREAM* just plain lilac, while *EUTERPE'S* (p. 14) plain mauve flowers have a lighter edge. *KING MAUVE*, mauve, and *LA TRISTESSE*, slaty blue, are somewhat darker than the mauve-lilac blooms of *MAUVE CLAIR*, or the immense flowers of *MRS. HAROLD IRVING PRATT*, of vinous mauve paling almost to white at the edges—a majestic flower.

The slaty violet flowers of *REMEMBRANCE* (p. 18) and the pure violet ones of *THE BISHOP* (p. 17) are rather dark to be included here but they are fine Tulips and must have a place. In addition to being an important lilac-rose



Mauve Clair



La Fiancee



Marconi



forcing variety, WILLIAM COPLAND (p. 10) looks good in the border. ZEV's great blooms are about the same shade of violet-lilac as King Mauve.

It is a short step from the darkest of the preceding to the purples and so-called blacks, and some of these are very attractive Tulips.

One of the finest in this range is BLACK EAGLE, with unusually large flowers of deep purple with a blue center and violet anthers. With a maroon shade added to the purple, the blooms of FAUST have pleased lovers of the dark Tulips for a long time, as have GIANT's (p. 5) flowers of reddish purple-violet and JUBILEE's (p. 18) blue-purple ones.

The so-called Black Tulip LA TULIPE NOIRE (p. 19) is probably the darkest so far produced, and its dark maroon flowers have a blackish velvety finish that is really pleasing. Other good varieties are FRANS HALS (p. 6), bluish violet; MARCONI (p. 13), ashy purple; PHILIPPE DE COMINES (p. 9), purplish maroon; PRESIDENT GARFIELD (p. 8) and PRESIDENT HARDING (p. 19), both purple.



Helen Eakin

There are not many varieties that could really be termed bicolors, but AFTERGLOW, which one enthusiast describes as "soft apricot-orange, tinged with pink, with a light orange edge" is truly a bicolor, and it is a very lovely Tulip.

Not many yellows have been developed in the Darwin Tulips, but a few have been recently introduced. Although they look as if they belonged among the Cottages, they do add considerably to this fine family.

The pale lemon flowers of CITRONELLA carry a pleasing lemon



Afterglow, La Tristesse, Princess Elizabeth, Snowstorm, Mr. Farncombe Sanders

scent, while the egg-shaped blooms of GOLD LACE are deep golden yellow with touches of bronze. SUNKIST is a self-color of deep rich yellow.

Lovers of the softer shades will like the primrose-colored



Yellow Giant

A DARWIN
CONTRAST



The Bishop



Jubilee



Remembrance

DARWIN TULIPS
IN PURPLE SHADES



La Tulipe Noire



Louise de la Valliere



Venus



President Harding

TOP-LIGHT, whose egg-shaped flowers are very beautiful. Probably the largest of these yellow Darwins is YELLOW GIANT (p. 17), of deep golden yellow, lightly touched with bronze.

There are a number of good white Darwins, with the old ZWANENBURG as desirable as ever; its large, pure white flowers are never



Sagittarius (Triumph)

out of place. It is also popular with the florists for forcing. Others of fine quality are FOAM (p. 11), a very large, pure white sort; GLAZIER, a very tall grower with oval flowers of pure white; HELEN EAKIN (p. 15), SNOWSTORM (p. 16), and LA SALLE.

*Mr. Zimmerman*

THE MENDEL AND TRIUMPH TULIPS

These are two recently introduced classes derived from the Darwin Tulips. Not warranting a separate section, they are included here.

The Mendel group resulted from crosses of Darwin and DUC VAN THOL Tulips. They bloom just after the Early Tulips, and although they resemble the Darwins in color of the flower and length of stem, they really belong with the Single Early group.

Varieties worth trying are DODONEUS, a low-growing variety with cup-shaped flowers of rich brownish garnet; FIRST RATE, brilliant fiery vermilion-red; QUEEN AUGUSTA, with narrow cups of clean mauve-pink, which do not fade; RED CROSS, clear carmine-red; WEBER, large cups of white, tinged and edged with rose; and ZENITH, with large flowers of satiny rose, each petal marked with a white line down the center.

The Single Early Tulips, crossed with Darwins, produced the Triumph Tulips, which, with the Mendels, bloom between the Early and the May-flowering varieties, thereby filling in the period of a few days formerly Tulipless.

The Triumph varieties are Darwin in form of flower and height of stem; therefore, the sensible thing would seem to be to consider them as Early Darwin sorts and list them accordingly.

Of these, CHICAGO has enormous flowers of shining carmine-red. KANSAS (p. 7) is one of the finest of all white Tulips; the graceful cups have a slight ivory tint at first but the mature flowers are a pleasing white. MR. ZIMMERMAN has interesting silvery white flowers marked and edged with fuchsia-red, and PICTOR, with rich blooms of burnt-orange, is a good companion for the deep garnet TOSCA.

TUBAN has wide flowers of deep cherry-red, edged white, and VON HINDENBURG is a deep blood-red of medium size.

One of the loveliest of them all is SAGITTARIUS (p. 20), having egg-shaped, creamy white blooms, with half-inch featherings of pale pink at the edges; yellow anthers in a pink-and-white cup finish the make-up of a very beautiful Tulip.



The Breeder Tulip Louis XIV used to advantage

BREEDER TULIPS

*Bronze Queen*

The Breeders are the modern version of the old Dutch Tulips, and until quite recently included the "art" shades, the rich browns, bronzes, deep oranges, and purples; but the last few years have seen the addition of yellow and even pink to this class. This is to be deplored, as there are plenty of light colors in the other classes, and the Breeders might well have been allowed to remain distinct in their rich, even though sometimes dull, colors.

The flowers of the Breeders are quite large, usually egg-shaped, and are produced on heavy stems of about the same length as the Darwins. They open out, showing their attractive centers during the heat of the day, but close again as evening approaches.

Because of their interesting coloring there are many places in the garden where they fit in better than their brighter-colored relatives, and as cut-flowers, where brilliancy is not wanted, they are unexcelled.

Since most of the flowers include more than one shade of color, it is almost impossible to separate them into color groups, wherefore the descriptions here given are of some of the most outstanding varieties, with other desirable sorts merely listed.

Just finding its way into gardens, ADMIRAL TROMP, with flowers of bright orange-red, shaded with salmon, has many admirers; the also recent ALICE KEITH has tones of warm bronzy orange which thrill the admirers of Breeder Tulips.

One of the older dark varieties, popular for forcing as well as for garden use, is the plum-purple BACCHUS (p. 24), considered to be the bluest of all Tulips—the blue effect coming from a heavy gray bloom on the outside of the petals. Another lovely dark variety is the new BARCAROLLE, with immense violet-purple flowers and a yellow base.

With an interesting blend of deep yellow and brown, lightened with just a touch of rose, the splendid BRONZE QUEEN has been a favorite for a long time. Popular for years, the reliable



Fairy

STANDARD
BREEDER
TULIPS



Bacchus



Dom Pedro

CARDINAL MANNING (p. 27), is a fine grayish lavender flushed with bronze and rosy purple, the cup lined with deep violet which changes to brownish purple as the flowers mature.

A recent introduction meeting with general approval is CHERBOURG, with old-gold flowers shaded light bronze; it looks well with plantings of other garden material blooming at the same time. Distinct is the lively bright orange CORIDION (p. 27), shaded with bronze. Likewise in the orange range is DILLENBURG, with egg-shaped blooms of a refreshing mixture of pale tan and reddish orange.

A standard for years, DOM PEDRO'S (p. 24) coppery brown tones will be wanted for a long time to come, as will the glorious blooms of FAIRY (p. 24), or, as some catalogues insist on calling it, PANORAMA, with great flowers of chestnut-red which have not been surpassed.

Another old friend belonging in every collection is the lovely FEU ARDENT, whose rich brownish scarlet tints are always pleasing. GODET PARFAIT (p. 27) is a charming variety in the dark shades; its nicely formed flowers of rich deep reddish purple, overlaid with brownish black, make it especially valuable where a dark Tulip is desirable.

Among the most largely used Breeders today is INDIAN CHIEF, with mahogany-red blooms stained purple and brown, held thirty-three inches above the ground—quite in contrast to the twenty-inch stems of LEONARD BARRON, carrying shapely flowers of



Prince of Orange



Velvet King



Vulcan

deep orange, flushed with carmine both inside and out. Another tall grower is the stately LOUIS XIV (p. 22), with blackish purple cups edged brownish gold, while the well-named LUCIFER is a flame of burning orange—a fine companion for the grand MARECHAL VICTOR, described by one enthusiast as blue and bronze and apricot and rose and brown.

The clear violet MRS. BEECHER STOWE is of globular form, while the mahogany-brown PRINCE ALBERT is inclined to flare. Other members of the royal family are PRINCE OF ORANGE (p. 25), terra-cotta, edged orange, and PRINCE OF WALES, with globular blooms of deep purplish maroon, which sometimes seem too heavy, as the stems are not always straight. Quite opposite in color, and no longer new but still charming, is QUEEN ALEXANDRA with flowers of bright yellow, relieved by orange-brown stripes and tips.

In the lighter shades, REVE D'OR is bright orange-yellow with golden bronze overtones; this is one of those Tulips becoming more beautiful as they age. One of the lightest of the Breeder Tulips is the rather new SOUTHERN CROSS, with large, cup-shaped flowers of a peculiar shade of light yellow, with pale violet flushes on the outside of the petals. Another odd combination of colors is the lilac and buff-yellow of TANTALUS, while VELVET KING's (p. 25) great flowers are the darkest of royal purple, the velvety surface of the petals suggesting the name.

One of the loveliest of the Breeder class is the large and shapely VICTOR, whose cups are deep burnt-orange with light orange edges;



Lucifer



Queen Alexandra

it is a tall-growing variety, and the striking flowers last a long time. Another arresting Tulip is the mighty VULCAN (p. 25), with sweet-scented, strawberry-red blooms, having a margin of buff-yellow. So new that it is not well known in gardens is the dark WILLIAM THE SILENT, with great flowers of warm reddish purple—a splendid contrast to the bronzy yellow of YELLOW PERFECTION, with edges of golden yellow.

In addition to the preceding, other Breeders, selected from the scores of varieties now in commerce, have also proved their worth:

APRICOT, a blend of rose, bronze and orange; BRIGADIER, chestnut-brown shaded orange, with a border of lighter orange; COPERNICUS, dark coppery red, shaded old-rose, the inside of the cup chestnut-brown; DUKE OF EDINBURGH, enormous flowers of deep violet; GARBALDI, pale lilac-bronze, edged pale yellow.

GEORGE GRAPPE is one of the giants, sometimes reaching forty-eight inches in height, with flowers of soft mauve; GOLDEN BRONZE, brownish yellow flushed violet; GOLDEN GOBLET, old-gold; GOLDEN WEST, golden buff; GOLDFINCH, yellow, brown and bronzy gold; HELOISE, deep brown and old-rose; HUCHTENBURG, another giant growing to thirty-nine inches, with flowers of lilac and chestnut, edged golden brown; JESSEY, coffee-brown, flushed bronzy red; MINERVA, violet, shaded blue, a new giant with thirty-six-inch stems.



Cardinal Manning



Coridion



Godet Parfait

A great flower of clearest purple is *MRS. J. RAMSEY HUNT*, one of the newer introductions, while the rosy violet blooms of *NEPTUNUS* have been popular for a long time. Noted as being the tallest of the Breeders, *NEWTON* is rich dark purple covered with a most pleasing bloom.

The two "pink" varieties, *PERLE ROYAL* and *PINK PEARL*, are lovely Tulips but just do not seem to belong among the Breeders. If *Pink Pearl*'s lilac-pink beauty were displayed among the Darwins and the white and rose *Perle Royal* were listed as a Cottage, we would feel better satisfied.

With a real "old-timey" look to its garnet and primrose flowers, *OLD TIMES* seems to be well named, as indeed is *ORANGE GLORY* with terra-cotta-orange cups which are really glorious.

Two attractive light varieties are *PLUTARCHUS* with bronzy yellow tones, and *RAYON D'OR* with egg-shaped flowers of bright golden bronze, a nice companion to the bronzy violet-purple *ROI SOLEIL*. Another two-toned flower is the orange and bronze *SUNDANCE*; *VIRGILIUS* is a dull blue-purple.



Ambrosia



The Cottage Tulip Barbara Pratt in an attractive setting

*Illuminator*

THE COTTAGE TULIPS

This lovely group was originally composed of the bright-colored, slender-flowered types collected from cottage gardens in the British Isles, where they had been grown for generations, but the Cottage class now includes crosses of these with Breeders and Darwins, and most catalogues also include the so-called lily-flowered varieties.

These Tulips bloom at the same time as the Breeders and Darwins, and include fine yellows, brilliant reds, clear pinks, and the whitest of whites,

as well as a wide range of shades and tints. Their stems are usually slender, but quite strong enough to hold the flowers upright.

By reason of their bright colors they make fine garden pictures, and are especially effective when planted against evergreens. Their shapely flowers will be found to lend themselves readily to decorative arrangements in the house.

Because of the great variation in height, the Cottage Tulips are most satisfactory when planted in groups of one variety rather than in a mixture, unless they are grown primarily for cutting.

Resulting from a cross of *Gesneriana Spathulata* and the species *Tulip Greigi*, the new **ADVANCE** is one of the largest of hybrid Tulips, and the great fiery red flowers when fully open resemble an Oriental poppy, while the blooms of the bright yellow **ALASKA** look more like a lily.

As its name suggests, **ALBINO**'s flowers are pure white, and those of **AMBROSIA** (p. 28) are fawn-orange on the outside and apricot-yellow inside—truly a lovely flower. The chrome-yellow **ARETHUSA** (p. 35) and the deep yellow **AVIS KENNICOTT** are most pleasing, as are the carmine cups of **BARBARA PRATT** (p. 29).

The red of **BATAVUS** has a cochineal tint, attractive when placed next to the snowy white and much-admired **CARRARA**. Quite unique are the lily flowers of **COLUMBIA**, each yellow petal having a garnet stripe down the center, while the rose-red and orange flowers of **DIDO** (p. 39) wear a frosty bloom to enhance their beauty.

Another spectacular flower is the Grullemanni hybrid **DOSIA**, of a bright red shade, edged with yellow, while the orange-shaded

rose *ECLATANTE* is thought to be an improved *Dido*.

Two lovely lily-flowered varieties are *ELEGANS ALBA*, white, and *FASCINATING*, yellow, both of fine form. Other exquisitely formed sorts are the yellow *GESNERIANA LUTEA* and its red relatives, *GESNERIANA MAJOR* and *GESNERIANA SPATHULATA* (p. 37).

Although not yet abundant in America, the appropriately named *GLARE OF THE GARDEN* (p. 32) is a low-growing variety with shapely blooms of brilliant cochineal-red. Striking, indeed, are the fragrant flame-orange blooms of *GRENADIER* and the stippled red-on-white flowers of the Darwin species hybrid *GRISILDE*; these last a long time as cut-flowers.

Quite distinct among the Cottage Tulips is the mahogany-brown *HAMMER HALES* (p. 37), with its petals edged with orange. Modest in comparison are the vivid rose flowers of *HAUTAIN*, while *HENRI CORREVON* soars into the spectacular again with brilliant blooms of clear geranium-red—a fit companion for the velvety yellow and red *ILLUMINATOR* (p. 30).

There are two lovely large-flowered, almost Darwin-like varieties bearing the same first name: *INGLESCOMBE PINK* (p. 37) is soft rosy pink, while *INGLESCOMBE YELLOW* (p. 37) is glossy canary. A Darwin crossed with a Cottage produced *JEANNE DESOR*, with long flowers of orange-yellow, bordered with scarlet. Another bicolor is *JOHN RUSKIN*, having salmon-rose flowers edged soft lemon-yellow.



John Ruskin



Grenadier



Rosabella



Brilliant cochineal-red from the time it opens until the petals fall, LOHENGRIN is a fine Tulip for color effect, while the delicate pink lily flowers of MARCELLINA are contrastingly dainty, and MARION VOORHEES presents another thought with its clear buttercup-yellow coloring.

The dark, rose-red lily flowers of MARTHA (p. 33), and the immense light red blooms of MAYFLOWER, present two very different types in this class.

There are several splendid yellows that can be but mentioned here. With very long buds, the lily-flowered MISS ELLEN WILLMOTT opens pale creamy yellow, quite different from the Darwin-shaped, deep yellow flowers of MONGOLIA.

The graceful, pale canary-yellow MOONLIGHT (p. 37) is always

different and pleasing, as are the pure glistening yellow blooms of the new *Mrs. F. E. Dixon*, which appear to be dusted with powdery sulphur. Everyone likes the large, yellow lily flowers of *Mrs. Moon* (p. 39), and the new *Mrs. John T. Scheepers* promises to become a favorite, its long narrow flowers of golden yellow being especially good.

The richly colored *Orange King*, with a base of deep orange overspread with a scarlet flush, is a desirable Tulip, and the lovely old *Picotee* is one of the "must haves"; its shapely lily flowers of ivory-white have a wire edge of carmine-rose which eventually spreads over the entire bloom. Another dainty thing is *Queen of Spain*, with a peach-pink flush over a cream base, a lovely blending of soft shades, very much like the cream-flushed pink of *Queen of the North*.

In the spectacular class, *Red and Silver* has large flowers of brilliant flame and pale yellow, marked like one of the broken Tulips, where it would seem to belong; the red spreads as the flower ages.

One of the largest of the Cottage Tulips is the new *Refulgence*,



Martha



Cottage Tulips in profusion

*Arethusa*

with long, narrow flowers of rich orange-scarlet. Another rather recent variety is ROSABELLA (p. 31), whose salmon-rose blooms are especially popular for exhibition purposes. Two dazzling scarlet varieties are SCARLET EMPEROR and SCARLET GLORY, the former with pointed and the latter with rounded petals, while the lily-flowered SIRENE (p. 36) is one of the favorites among the pink-flowered sorts.

Distinct in coloring, THE FAWN (p. 37) has shapely blooms of rosy fawn; also with splendid form is the chaste VESTA, with flowers

of the purest white. Other fine whites are WHITE DUCHESS and WHITE ENSIGN; the Duchess, lily flowering, with pointed petals, is snow-white, while White Ensign's rounded petals are cream at first but change to pure white.

An exquisite Tulip is the goblet-shaped WELWYN, or CAPRI with petals of the softest yellow, much lighter than the rather recent YELLOW GIANT, whose shapely globular flowers are pure golden yellow. Properly ending the list is ZEUS, with powdery yellow petals shaded lilac.

Short descriptions have been given of a few good varieties in the different color-ranges. Any good bulb catalogue will list scores of others.



Sirene



Inglescombe Pink



Hammer Hales



Moonlight



The Fawn



Gesneriana Spathulata



Inglescombe Yellow



An informal border of Tulips

*Dido**Mrs. Moon*

TWO DESIRABLE COTTAGE TULIPS

PARROT TULIPS

The Parrot, or Dragon Tulips, are so called from the fancied resemblance of the opening flower to a parrot's or dragon's head. Their flowers are very large, with deeply slashed petals, oddly twisted and feathered, and always with green shades mingled with their brilliant colors. As cut-flowers, the Parrots have unusual decorative possibilities, and, blooming after the Single Early Tulips, they provide cut-flower material at an opportune time.

With a name as odd as the flower, ADMIRAL OF CONSTANTINOPLE has large, bright scarlet blooms, shaded orange, a gay sort, but not nearly as exciting as BLUE PARROT, a sport of the Darwin, Bleu Aimable; this flower is really blue and is one of the most gorgeous.

In tones of salmon-rose, and with the white almost too prominent, the new CAPRICIO presents a rather bizarre appearance, while the strangely named COFFEE COLOR is really soothing in its tones of brown and yellow, which are distinct in this gay family. Quite different is CONSTANTINOPLE, whose big red flowers are shaded with orange, while CRAMOISI BRILLANT is all crimson, except for the dragon's green found in all the Parrot Tulips.

A sport of the Darwin, Princess Elizabeth, is DISCOVERY, with very fine flowers of an unusual shade of lilac-rose, not so gay as the salmon-rose FANTASY (pp. 40, 41), the sport of the Darwin, Clara Butt, that started the popularity of the Parrots, which the



lovely GADELAN (p. 42) is helping to carry along. This lovely Tulip is a blend of violet and mauve, with purple shadings.

Unusual in its tints of apple-blossom-pink, GEMMA is distinct and very easy to use, while LADY DERBY, a sport of the Darwin Tulip, Circe, is very much like Fantasy in everything but color, the blooms of Lady Derby being lilac-rose, with the edges quite



The Parrot Tulip Fantasy growing luxuriantly

silvery. One of the most spectacular of the family is LUTEA MAJOR, a rather loosely made flower of rich yellow striped with red and the usual parrot green; it is too gay to be carelessly placed. Also very colorful is MARKGRAAF VAN BADEN, with shades of yellow, scarlet, purple, and green beyond understandable description.

Very new is the beautiful OPAL QUEEN, which is considered to be close to perfection. The blooms are remarkably large, and the color is a delicate shade of pearly blue, which is so useful for decorative arrangements.

SENSATION is modestly arrayed in deep lilac and white, so peaceful that one wonders why it was given this name. We can understand why SUNSHINE was so named, as the shaggy flowers are shiny yellow; it is a sport of a Cottage Tulip for a change, Bouton d'Or being the parent, while THERESE is a sport of the Darwin, Mr. Farncombe Sanders, and is an unusual shade best described as cherry-scarlet.



Gadelan



Couronne d'Or, an Early Double Tulip

DOUBLE TULIPS

There are here two classes: the Early sorts are used by the florists in great quantities for forcing for late winter and early spring sale, and are also grown in some gardens; the late Double



Double Tulips massed for effect

varieties are now being introduced to gardens. The Double Early Tulips succeed the Single Early sorts, while the Late Doubles come with the May-flowering classes.

Of the Early varieties, *COURONNE D'OR*, yellow; *IMPERATOR RUBRORUM*, scarlet; *MURILLO*, rose-pink; *SCHOONOORD*, white; and *VUURBAAK*, scarlet, are excellent. *ATTRACTION*, orange; *BEAU CELESTE*, violet-purple; *EPICURE*, apricot-salmon; *PENSEE ROSE*, rose-lavender; *MOUNT TACOMA*, white; and *UNCLE TOM*, red, are good late double kinds for garden use.



Single Early Tulips blooming with forsythia



The notable Single Early Tulip, De Wet

SINGLE EARLY TULIPS

These are the most important of the Tulips forced by the florists, as they can be brought into bloom in midwinter under glass, and one can buy a pot of these charming Tulips in bloom almost any time after New Year.

From the long commercial list, a few representative sorts are here mentioned. One of the earliest to bloom is the brilliant crimson BELLE ALLIANCE; another bright variety, popular for forcing as well as for garden use, is BRILLIANT STAR, with large blooms of vermilion-scarlet, while the tall CHRYSOLORA's flowers are pure yellow.

A late variety, extending the bloom season, is the rich crimson-scarlet COULEUR CARDINAL (p. 48), which makes a fine companion for the sweet-scented and very showy DE WET (p. 46), whose bowl-shaped flowers of golden yellow are flushed with burning orange. An interesting pink variety, DIADEM, has a large twelve-pointed star in the center, while the crinkly carmine-rose blooms of FLAMINGO have petals striped with white. FORTUNA's large flowers are satiny lilac-rose. Getting back to the ruddy shades, FRED MOORE delights with blooms of deep apricot which shade at the edges to dull orange-yellow.

*White
Swan*

*Prince
of
Austria*



Considered to be a darker form of Flamingo, and a prize-winner at exhibitions, IBIS is brilliant dark pink when forced under glass—

a very quiet flower compared to the fantastic KEIZERS-KROON, whose crimson-scarlet flowers are edged with rich yellow. White varieties are not plentiful in this class, so that the snowy white flowers of LADY BOREEL are appreciated, while the large golden yellow blooms of MON TRESOR are best when forced under glass. With a white stripe down each cherry-rose petal, PINK BEAUTY makes an attractive bedding variety, as does the brilliant PRINCE OF AUSTRIA (p. 47), whose orange-scarlet blooms are also popular with florists. Forced in large quantities, PROSERPINE's rosy carmine flowers are also attractive garden material.

A fine exhibition Tulip is the pure yellow RISING SUN, rapidly gaining favor for general use, as is the blush-white ROSE LUISANTE.

Somewhat of a stepchild, because it blooms several days later than its relatives, and travels under various names, is SARAH BERNHARDT (p. 49), or LE REVE, or HOBBEWA. Under any name, its pink flowers are worth having.

Two good white Early varieties are WHITE HAWK and WHITE SWAN (p. 47).



*Couleur
Cardinal*

*Pink
Beauty*



*Sarah
Bernhardt*



*A
Broken
Tulip*

BROKEN TULIPS

These attractive Tulips were the cause of the Tulip mania in Holland in the seventeenth century, when bulbs of especially bizarre varieties sold for fabulous sums.

There are three types. The Bybloemens are broken Breeders, and have feathery stripes of rose or violet on a white ground, while the Bizarres, which are also broken Breeders, have dark brown markings on a yellow ground.

The Rembrandt class includes broken Darwins marked with stripes and flakings of lilac, purple, red, rose, or white. They bloom with the Darwins and Breeders and are delightfully different cut-flowers.

Most bulb catalogues sell mixtures of unnamed Broken Tulips, but there are dozens of named varieties obtainable. Gardeners are missing much pleasure by not growing more of them.

In the Bizarres, **BLACK BOY** is a vision of brown and gold, black and yellow, somewhat darker than the bronze, yellow, and mahogany of **BONAPARTE** or the golden bronze, brown, and yellow of choice **CHERBOURG**.

Florists are taking to the orange, mahogany, and old-gold of **FANCY**, and the slaty purple and rich yellow blooms of **GELLERT** are especially effective in the garden. **LA GRANDESSE**, coffee-brown and yellow, and **TRAFALGAR**, violet-brown and yellow, are also desirable.

The Bybloemens include **ADMIRAL VAN KINGSBERGEN**, white pencilings on bright crimson; **BACCHUS**, white featherings over violet-blue; **FLAMBOYANTE**, violet with white flames; **GLORIOSUM NIGRORUM**, cream and deep purple-violet; **PAREL SCHAAP**, rose flames on a white ground, and **VIOLET SUPERBE**, violet with white feathers. All these are really lovely Tulips.

Especially worth growing are **ANNA MARIA**, lilac with darker lilac stripes; **APOLLO**, rosy lilac and white, with carmine markings; **CARACALLA**, white, feathered with carmine; **CORDELL HULL**, red, banded and feathered pure white, a splendid forcer; **MRS. FARR**,



Bybloemen and Bizarre Tulips as cut-flowers

scarlet, feathered white; **PIERETTE**, purple and lilac over waxy white; **RED PRINCE**, fiery red over a cherry-rose ground; **SEMELE**, vivid rose and white; **THE KING**, lilac flames over white; and **THETIS**, lilac, white, and red.



Multiflowered Tulips, Monsieur Mottet

THE NOVELTY TULIPS

Here are a few odd Tulips which seem to have no other home.

The unusual-looking SUNDEW, with bright red petals fringed and lacinated in a very untulip-like manner, is a freaky offspring of the Darwin family, which can only be considered a curiosity.

The Multiflowered Tulips are an interesting group whose stems divide into from three to six branches, each carrying a medium-sized flower; they average two feet in height, and need very rich soil.

The first of the group was MONSIEUR MOTTET, showing a graceful cluster of ivory-white flowers. This was followed by MME. MOTTET, blooming similarly in rosy red, shaded purple.

There are at least a dozen other varieties listed, in various colors. In our experience they tend to revert to a single bloom.



Tulips lend themselves to formal plantings, especially for flower shows



Tulipa Fosteriana, Red Emperor

THE BOTANICAL OR SPECIES TULIPS

Our garden Tulips have developed from native or wild species, patiently selected and hybridized over generations of interest. Europe, Asia, and Africa have thus contributed. Some of these species are themselves of great garden interest and are of easy culture, while others are difficult in garden civilization, and may disappear after blooming. Those here commented on are of very real interest and value, some being uniquely beautiful. They do best in good garden soil, not too rich, in full sunshine, and it is necessary that they have good drainage.

Some catalogues show long lists of these Tulips, and it would seem that most of the species recognized in Bailey's Cyclopaedia either have been tamed, or are constantly collected from their natural haunts. Many, as above noted, are of doubtful garden utility.

About as freaky looking as a Tulip could possibly be is the Turkish Tulip, *Tulipa acuminata* (*T. cornuta*, *T. stenopetala*), twelve to eighteen inches tall, with long, narrow petals ending in a



Tulipa Clusiana



Tulipa Fosteriana, Red Emperor, before opening

*Tulipa Greigi**Tulipa Eichleri*

hair point; the color is light yellow with red lines, and the species is an interesting rock-garden subject. So also is *T. australis* (*T. Celsiana*), whose ten-inch stems bear slender yellow flowers much like the Florentine Tulip, save that the flowers of *Australis* are tinged with reddish bronze outside. Other Tulips only six inches tall are the dainty *T. Batalini*, from Bokhara, with narrow flowers of soft yellow, and *T. biflora*, probably a native of Turkestan, with bi-colored blooms, whitish yellow inside and purplish outside, somewhat like *T. chrysantha*, from Persia, whose yellow flowers grow barely half a foot off the ground.

Many garden folks know *T. Clusiana* (p. 55), the graceful little Lady Tulip, with slender white flowers marked outside with cherry-red. It must be planted eight to nine inches deep to insure permanence. Blooming on twelve- to fourteen-inch stems, it fits into many places in the rock-garden and border, or in any little nook where its gay flowers can show themselves. It is especially attractive in groups in front of evergreens, a position which also effectively presents the beauty of the showy yellow and white flowers of *T. dasystemon*, another native of Turkestan, also growing but six inches tall.

There are several brilliant scarlet Tulips among sorts from western Asia. One with high garden value is the gay *T. Eichleri*, bearing, on ten- to twelve-inch stems, large flowers of crimson-scarlet with light reverse markings, above a glistening black base.

Probably the most effective of these very definitely "red" Tulips

*Tulipa Kaufmanniana*

are based on *T. Fosteriana* (pp. 54, 56), from Turkestan. The species itself is a large flower of brilliant red with a yellow or maroon and yellow base on nine- to ten-inch stems. Probably the largest and most brilliant of all Tulips is the *Fosteriana* variety RED EMPEROR (listed by some dealers as MME. LEFEBER). This great Tulip bears, on eighteen-inch stems, immense flowers nine to ten inches in diameter, of just about the most brilliant scarlet one can imagine.

Another interesting red Tulip is *T. Greigi* (p. 57), with six-inch flowers of orange-scarlet on ten-inch stems. The flowers much resemble some of the other red species Tulips, but the foliage is distinct, being closely marked with purplish brown spots of irregular shape. Much lower—only six inches tall—is *T. Hageri*, from Greece, fine in the rock-garden; it has three-inch flowers of mahogany-red, with the reverse of the petals buff and orange.



Spring-flowering bulbs lend interest to the rock-garden

Very distinct because its three-and-one-half-inch flowers are on stems rarely over six inches tall, *T. Kaufmanniana* (p. 58), known as the Water-lily Tulip, has become a rock-garden favorite. The flowers as they open in water-lily form are cream, heavily marked with carmine. It is one of the earliest to bloom, and is followed by its varieties, ELLIOTT ROSE and ELLIOTT RED, showing flowers half again as large as the type, and very lovely. The attractive *T. linifolia*, a native of Bokhara, has narrow foliage and small flowers of black-based scarlet-vermilion that are delightful.

The three-inch flowers on twelve-inch stems of *T. Marjoletti* are pale straw-yellow, the edges of the petals, except the points, being feathered with rosy carmine; the cup is decorated with sooty green blotches and black stamens. Quite different is the late-blooming *T. patens* (*T. persica*) from Siberia, which carries two or three fragrant yellow flowers on each eight-inch stem. The early-blooming



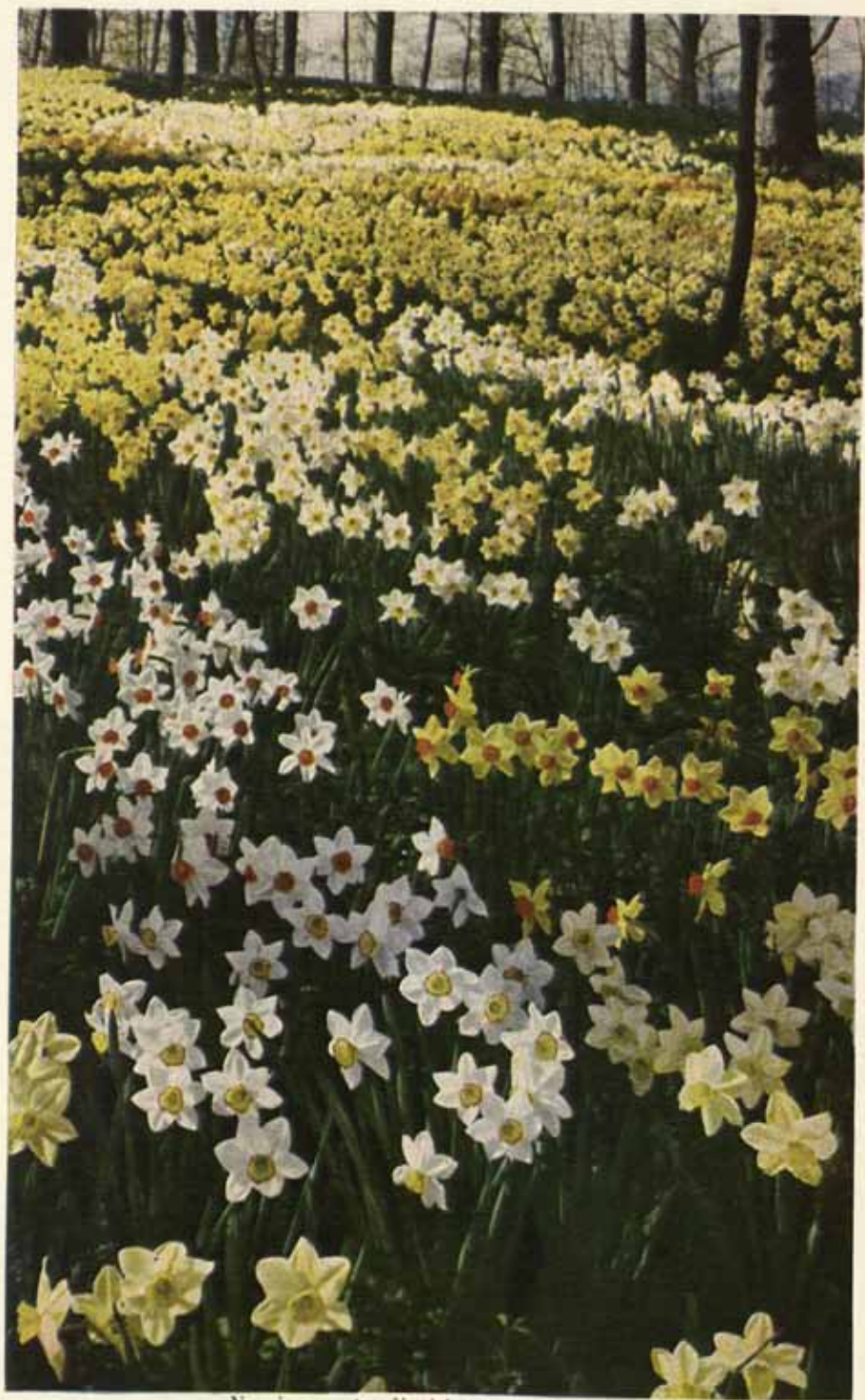
Species Tulips fit well into the rock-garden picture

T. praestans provides orange-scarlet flowers on twelve-inch stems.

Rather rare in gardens is the Cretan *T. saxatilis*, bearing two lilac flowers with yellow bases on its nine-inch stems. *T. Sprengeri*, from Armenia, is the latest Tulip to bloom, and makes itself very obvious, with its fiery orange-scarlet flowers held eighteen inches high. Quite late, also, is the fragrant *T. sylvestris* (*T. florentina*), with slender bright yellow flowers on fifteen-inch stems.

Narcissus





Narcissus naturalized in an open woodland



NARCISSUS

THE first of the more important bulbs to brighten our spring gardens are the easy-to-grow and entrancingly beautiful *Narcissus*.* No doubt it is these virtues which account for the fact that they are among the world's oldest cultivated flowers. Natives of the eastern hemisphere, they are found wild in Europe, Asia and Northern Africa. They have spread with civilization to the four corners of the earth.

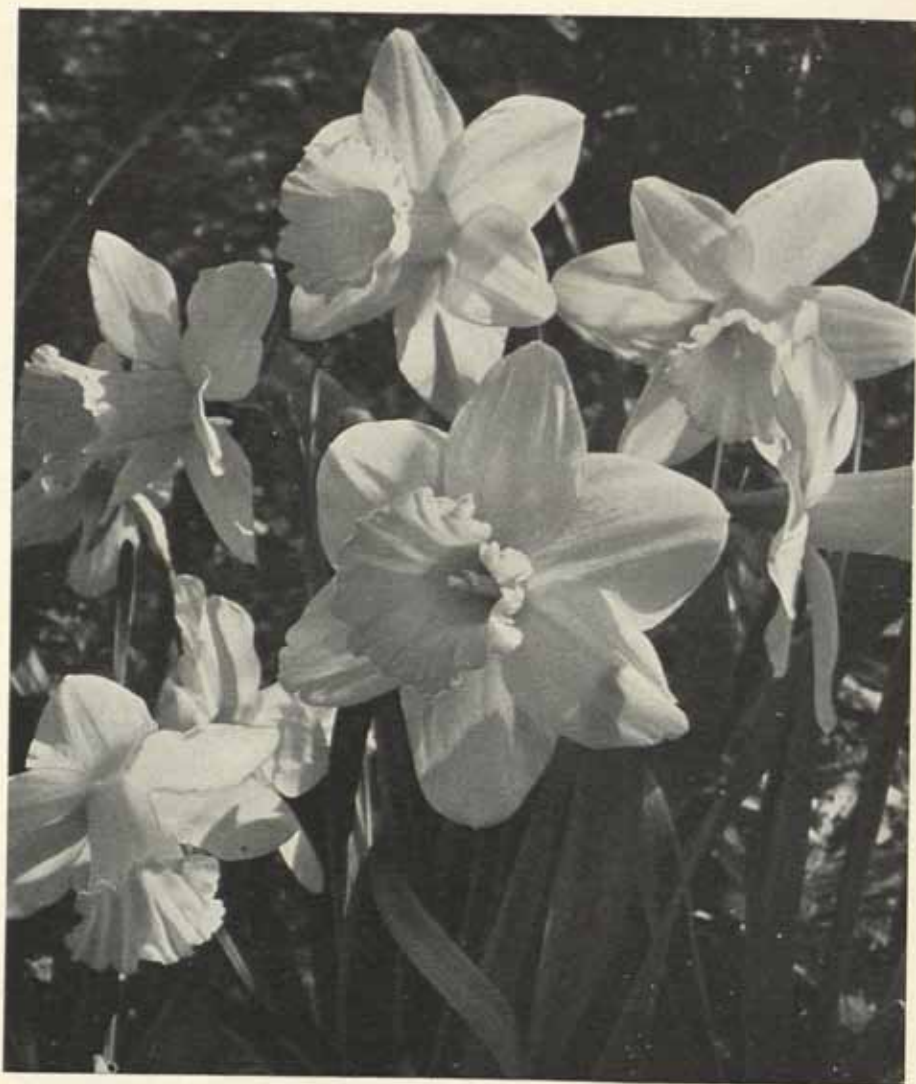
Because of the hardiness of these bulbs which are properly expected to remain undisturbed for several years, preparation of the soil for planting *Narcissus* should be thorough. They like a soil that is not too heavy, in which drainage is perfect. If manure is used, it should be very old, and be so deeply placed that the bulbs do not come in contact with it. Liberal quantities of bonemeal, well mixed with the soil, will furnish food for a long time, and annual top-dressings of bonemeal and hardwood ashes will keep the bulbs in working condition.

Narcissus bulbs should be planted in early fall, as early as possible, so the bulbs may have time to become established before the ground freezes. Depth of planting depends somewhat on the texture of the soil; in heavy soils there should be four to five inches of clean earth over the bulbs, while in light soils they may go two to three inches deeper. When the flowers begin to decrease in size and quantity, it is time to lift them and replant in new soil.

Planted in front of the perennial border, in front of shrubbery or evergreens, in the rockery, naturalized in grass, in fact, anywhere there is room, they will bloom, ripen their foliage, and be out of the way in time to have annuals planted over them without harming the bulbs.

From the hundreds of *Narcissus* in commerce, mention is here made of some of the moderately priced varieties which have proved popular. There are also mentioned a few of the higher-priced sorts. For simplicity, the standard English classification is used.

*The name *Daffodil*, constantly heard in connection with *Narcissus*, is simply the common name, best used in speaking of the Trumpet varieties, but applied indiscriminately.



Aerolite

YELLOW TRUMPET NARCISSUS

DIVISION 1A. Trumpet as long as or longer than the perianth segments, lemon or sulphur-colored, with perianth of same shade or lighter (but not white).

In the Yellow Trumpets are to be found the largest flowers of the Narcissus family—great, shapely blooms with long trumpets and wide perianths of various shades of yellow and near orange. They are excellent garden subjects, providing a desirable color over a



Emperor

long period, and as cut-flowers for the house they endure well. Some of the better-known varieties are "forced" or grown out of season in vast quantities by the florists.

The frank discussion which follows is kept alphabetical, referring to the illustrations by their pages.

Among those just becoming well known, AEROLITE (p. 64) is one of special distinction because of its unusually broad perianth segments. ALASKA (p. 63), with a very large, deeply frilled and recurved trumpet of deepest gold, is desirable, while ALASNAM's wide trumpet is also densely frilled, and early blooming adds to its worth. Another good early one is AUBREY, of golden yellow color and unusual frills.

Described by the introducers as having a "loud-speaker trumpet," BEN HUR seems to deserve the name, as the trumpet mouth is



Olympia



Whistler

two and one-half inches across. Not new, but still popular, CLEOPATRA does not show her pale-colored flowers until late, while DAWSON CITY's golden yellow flower is a quite popular exhibition one.

Although not so common as yet, DIOTIMA is considered to be one of the best of the super-giants, with a deep primrose perianth sometimes six inches across. DUCHANEL has immense flowers of a clear self-color and is nicely balanced.

An old variety, popular everywhere, both in the garden and under glass, is EMPEROR (p. 65), with a primrose perianth and a yellow trumpet. GIANT KILLER is a good Daffodil in spite of its name, while GOLDEN HARVEST tells its own story of a harvest of great big golden yellow flowers.

A favorite with the florists, who force hundreds of thousands of them every year, GOLDEN SPUR (p. 71), is still a widely planted garden variety. Another self-color is the golden HENDRIK IBSEN, whose shapely flowers are not so large, but appear early in the season. One of the most dependable of this section is the very large and very shapely KING ALFRED (p. 68), whose great flowers are of the purest deep yellow and are held aloft on long stems.

A lovely small variety only eight inches tall, and suitable for the rock-garden or the very front of the border, is LOBULARIS, while the only other prominent variety beginning with an L is the giant LORD WELLINGTON, with huge golden yellow flowers.



Narcissus minimus in the rock-garden

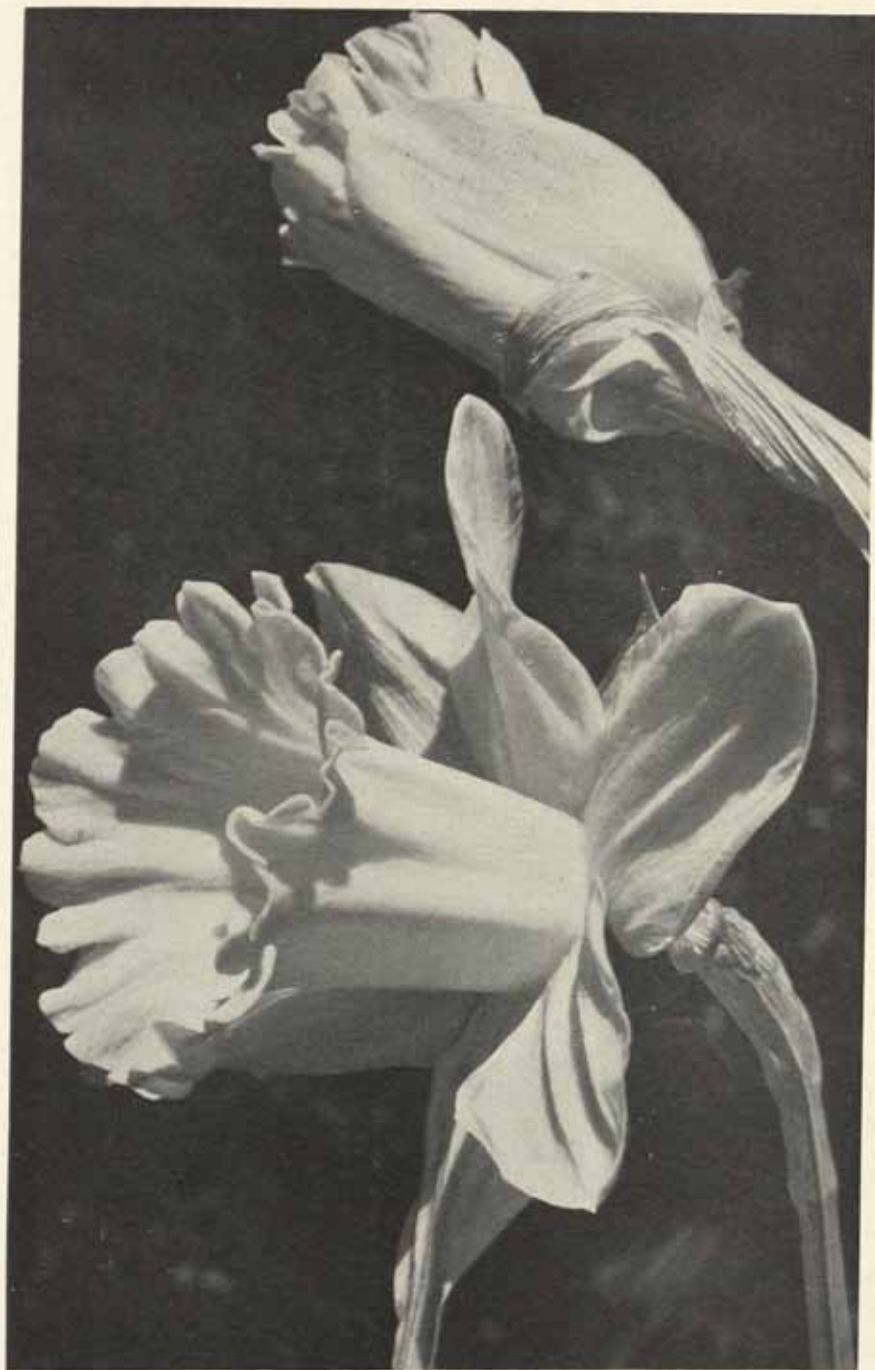


King Alfred

Not plentiful as yet, but distinct and desirable, is MACMAHON, whose flowers of deep golden yellow have a metallic sheen which glitters in the sunlight. This is a worthy descendant of the great King Alfred, as is MATAMAX, whose deep golden yellow trumpet matures almost as light as its wide-petaled primrose perianth.

MEGAPHONE can be classed as an unusual flower because of the extra flare of its trumpet, quite different from the reliable MINISTER TALMA, so much used for forcing, which is just a good, normal Daffodil, while MOUNT ROYAL's perianth is very distinct, having three very wide petals and three narrow curved ones.

Three good miniature Trumpets are MINIMUS (p. 67), MINOR, and NANUS, all blooming very early. MINIMUS is considered to have the smallest flower and the dwarfest plant of all the Trumpets, being



Warwick

*Jungfrau*

only three inches tall, with perfectly formed little flowers of rich yellow. The second, *MINOR*, has six-inch flower-stems and dainty flowers of soft primrose with one-inch trumpets, while *NANUS* seems to fit in between the two with both bloom and stem intermediate. These are lovely for the rockery, or in front of the border, or in groups here and there.

OLYMPIA (p. 66) and *ROBERT SYDENHAM* are two standard varieties in shades of primrose. The more modern *STATENDAM* has a fine broad perianth and a trumpet of superb proportions, while the reliable *TRESSERVE* sports a canary-yellow trumpet partly hidden by the forward-reaching perianth segments.



Golden Spur

Another of the King Alfred seedlings which is making a name for itself is WARWICK (p. 69), an immense flower of rich golden yellow which seems to be just about perfect in every way. WHISTLER (p. 66) is another larger-flowered variety of about the same general color.

*W. P. Milner**Mrs. Ernest H. Krelage**Mrs. R. O. Backhouse*

WHITE TRUMPET NARCISSUS

DIVISION 1B. *White perianth and white or nearly white trumpet, including those with pink or apricot trumpets.*

Few people can resist the chaste beauty of the White Trumpet Narcissus. Not as large as their yellow relatives, they are more exquisitely formed and range from the snowy whiteness of *Moschatus* of Haworth to the lovely pinkish tints of *Love Nest* and *Mrs. R. O. Backhouse*. The White Trumpets are especially beautiful as cut-flowers under artificial light.

One of the newer varieties sure to become very popular is the lovely *BEERSHEBA*, which is not snow-white but of great size and perfection of form. *JUNGFRAU'S* (p. 70) long trumpet is intriguing, as is the soft cream shade of *LA VESTALE*.

Everyone likes *MRS. ERNEST H. KRELAGE* when the flowers reach their ivory-white stage, and the pure white perianth of *MRS. JOHN BODGER* is real perfection.

For pure snowy whiteness try *MOSCHATUS OF HAWORTH*, from the Pyrenees. You will want *PETER BARR*, named for the man who made the Narcissus popular, and *W. P. MILNER* because of its odd appearance.

LOVE NEST and *MRS. R. O. BACKHOUSE*, the two pink Narcissus, are truly irresistible.

Other white varieties of real value are *ADA FINCH*, *ALICE KNIGHT*, *LORD LOUIS MOUNTBATTEN*, *MME. DE GRAAFF*, *PRESIDENT CARNOT*, *QUEEN OF DENMARK*, *ROSABELLA*, and *SILVER GLORY*.

BICOLOR TRUMPET NARCISSUS

DIVISION 1C. *White or whitish perianth and a yellow, lemon or primrose trumpet.*

While there are some lovely things among the Bicolors, very many of them are so like the Yellow Trumpets that this class does not seem to be as important as the Yellow or White Trumpets.

The following varieties are reasonable in price and all definitely desirable: ABIAD, rather new; EMPRESS, a very popular forcing variety; GLORY OF SASSENHEIM; JEFTA, another King Alfred seedling; MME. VAN WAVEREN, ivory-white in the garden, pure white under glass; the new OCTAVIANUS, described as picturing moonlight through mist; PRIDE OF HILLEGOM; ROBERT E. LEE, a fine exhibition type; SILVANITE, one of the loveliest of the class; SPRING GLORY; VANILLA; the enormous VAN WAVEREN'S GIANT; VICTORIA and WEARDALE PERFECTION.



Spring Glory

*Milford Haven**John Evelyn*

INCOMPARABILIS NARCISSUS

DIVISION 2. *Cup or crown measuring from one-third to nearly the length of the perianth segments.*

In these Intermediates are to be found some of the most pleasing varieties of the entire *Narcissus* family. The trumpets are shorter than in the preceding class, being mere cups in many cases, and the flowers are not so heavy. The rich coloring of the chalice cups of this section against their pale perianths is delightfully picturesque, and whether used as cut-flowers or left on the plants for the glory of the garden, they will bring the owner much pleasure.

From the hundreds of varieties in commerce the following low- and medium-priced varieties have been selected:

A canary-yellow cup, its heavily frilled edges warmed with a zone of rich orange against a silvery white perianth, makes the old **BERNARDINO** (p. 76) one of the "must haves," in which class we put the changeable **CRÆSUS** (p. 76), whose broad canary-yellow petals turn to ivory-white as a background for the orange cup.

Just a little higher in price, but too lovely to omit, is **DICK WELLBAND** (p. 76), whose burnt-orange cup nestles against oval petals of pure white. Quite different is the popular **DONATELLO**, with a rich yellow trumpet and primrose perianth, while **FRANCISCUS DRAKE** (p. 77) is gaily rouged, its broad scarlet-orange cup having a particularly burning edge that sizzles against a silvery white perianth.

A popular exhibition variety is **GALOPIN**, with purest white petals

*Lucifer*

and deep orange-red cup, a contrast to the daintiness of *HELIOS*, whose star-shaped yellow perianth supports a pale orange, frilled cup.

The internationally famous *JOHN EVELYN* (p. 74) is now so easy to obtain that everyone can enjoy its immense pure white petals and densely frilled lemon-yellow cup, which is shirred to the base. Also note the showy *LUCIFER*, with an orange-edged chrome-yellow cup and sulphur-white petals. Rich golden yellow all the way, *LUCINIUS* is one of the few true selfs in this class and seems rather lost among its brilliantly colored relatives, such as *MICARÈME*, whose large, orange-yellow cup is edged with rich orange which seems to be just the right shade to go with its twisted yellow petals. *MILFORD HAVEN* (p. 74) has a striking flower of cream-white, chrome-yellow, and orange-scarlet.

There are several varieties whose names begin with *Orange*, many of which are new and rather rare, but *ORANGE GLOW*, with a



Sir Watkin



Bernardino



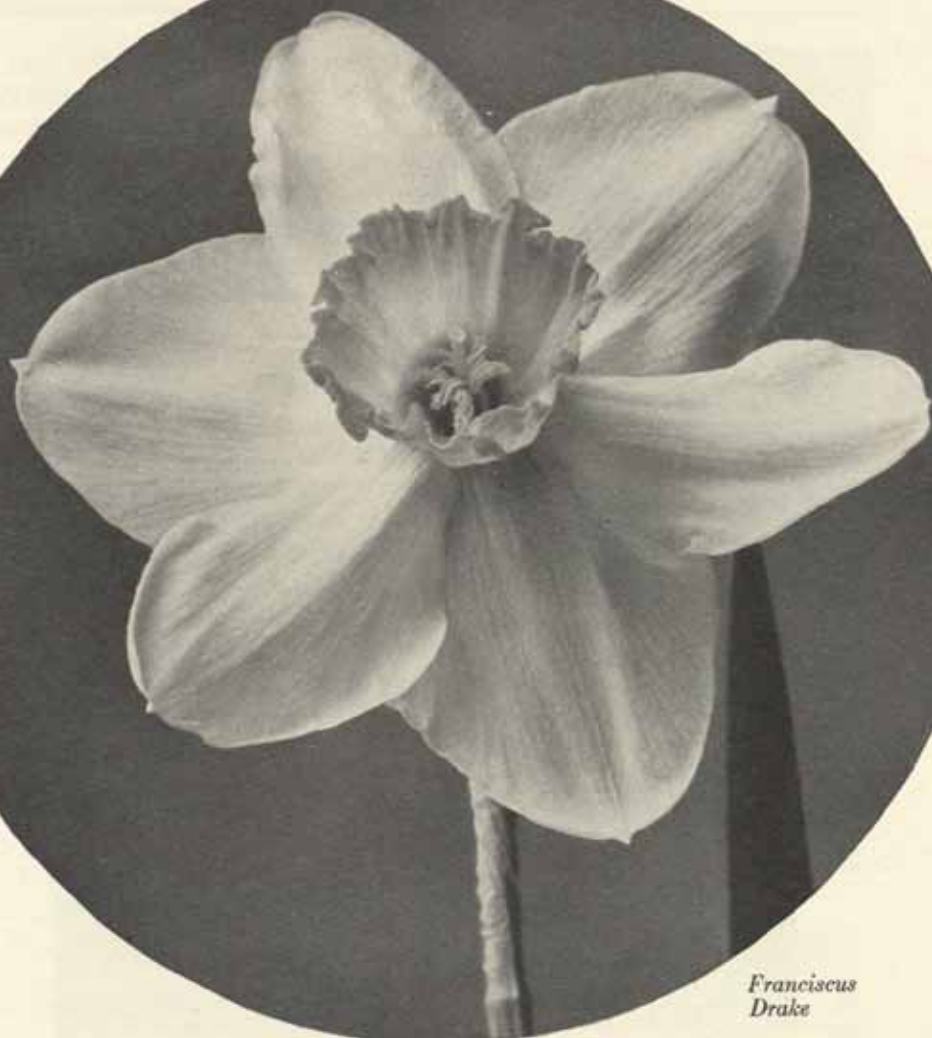
Dick Wellband



Cræsus

beautifully frilled cup of deep glowing orange, and ORANGE KING, whose chrome-yellow cup wears a wide edge band of flaming orange, are both priced within reason.

RED CROSS (p. 78) and STELLA TID PRATT are two quite similar varieties with primrose perianths and densely frilled cups of deep orange—it is a case of take your choice. The famous SIR WATKIN has occupied a niche of its own since 1884, its fine flowers of sulphur, yellow and orange being popular for both forcing and naturalizing. Although too new to be very well known, WALTER



*Franciscus
Drake*

HAMPDEN's primrose perianth and yellow trumpet make such an exquisite picture that it should soon be popular.

WILL SCARLETT is yet one of the brightest of the red cups and belongs in every collection, as does the dainty YELLOW POPPY, with its clear primrose perianth and orange-edged, frilled cup.

There are scores of other reasonably priced varieties appearing in catalogues, but from those described anyone can select good sorts of all the types.

Among the newer varieties which are receiving favorable comment at the shows and are yet high priced but will soon be within reach of the average pocketbook, comes the lovely AGRA, with a broad overlapping perianth and a large, bright orange cup.

A promising seedling of John Evelyn is the spectacular BARBARA PRATT, whose heavily flanged and frilled deep yellow cup has a brilliant orange-red margin. Also a popular show variety is COPPER BOWL, whose bowl-shaped cup, stained coppery orange, suggested its name.

DAMSON and DORINE are choice novelties, the former's burning orange-red cup being very gay, while DORINE's shade of orange is more subdued. A giant in size, the internationally famous FORTUNE is destined for leadership. The petals are lemon-gold, and a crown of coppery red-orange completes a wonderful flower. Another popular exhibition variety is L'AIGLON, of creamy primrose and burning scarlet-orange, while the sensational LOUD SPEAKER is another giant, measuring four and one-half inches across; in modest shades of citron and chrome, it is beautiful. Distinctly different are the creamy white, gold-edged petals of MARY LONGSTREET with its crinkled cup of blood-orange, while MARY PICKFORD has a cup of orange-red of the same shade as that of the popular Merkara.

Two more Oranges, ORANGE OPHELIA and ORANGE SUN, are forging to the front at shows, the former's broad band of flaming orange being distinct, while ORANGE SUN's primrose and orange coloring is easier to look at.



Red Cross



Bath's Flame

BARRI NARCISSUS

DIVISION 3. Cup and crown measuring less than one-third the length of the perianth segments.

This class was named for Peter Barr, the great English plant-lover who gave the Narcissus its start on the road to popularity. It is an important class, containing some unusually attractive and fragrant varieties, and should be well represented in any collection.

Taking the moderately priced varieties in alphabetical order, ALBATROSS pleases with a creamy white background to a scarlet-edged citron cup, as does the popular ALCIDA, in whose pure white perianth is set a shallow cup of citron-yellow edged blood-orange. Somewhat newer is ANNA CROFT, noted for intense fragrance as well as beauty; ANNA's colors shade from primrose to reddish orange, while ARCHERON (p. 81) has a deep red cup against a lemon-yellow perianth.

BATH'S FLAME (p. 78) has delighted for a long time, with yellow petals and orange-scarlet-edged cup, while the somewhat similarly colored old friend BARRI CONSPICUUS (p. 80) has been blooming since 1886 and is still worth while, as is BONFIRE (p. 81), with creamy petals and an orange cup. Quite modern in comparison is DIANA KASNER, whose fluted cups are edged with burnt-orange, while the silvery white perianth segments have a sulphur-yellow base.

An international favorite, FIRETAIL, revels in creamy white, orange and scarlet tones. LADY DIANA MANNERS wins prizes with a very beautiful broad



Diana Kasner



Lady Moore



Red Beacon

*Barri Conspicuous*

white perianth supporting a large, flat, orange crown broadly edged with deep red—a striking variety. LADY MOORE (p. 79) fills more economical wants with the same rich colors, while LUCKY STRIKE is almost a self-color in comparison, as the orange edging is not deep. The modest MASTERPIECE blends creamy white petals with an orange cup, and MRS. BARCLAY presents a showy flower with a pale primrose perianth which changes to pure white, and a primrose-yellow cup picoteed with orange. Even more spectacular is NANNY NUNN, whose vivid orange-scarlet cup has a background of creamy white.

Of more sombre hue, the burnt-orange cup of NIOBE has a rich look pleasing to many Narcissus lovers, as is the spicy fragrance. NOBILITY, creamy white and orange-red; RED BEACON (p. 79), white and orange-scarlet; and RED CHIEF with a pure white perianth and

fiery orange cup, are all moderately priced varieties of merit. The more recent RED SHADOW is quite late, but well worth while as its broad primrose petals and deep yellow cup, edged rich orange, are very lovely.

Of the newer and still scarce varieties the following look as if they will continue until they reach accessibility.

Of semi-Poeticus type, ECLAIR is unique in this class, and its shallow yellow cup, shading to blood-red at the edge, is lovely, especially as the petals are pure white. The quite recent KILTER has much the same general color combination, while LADY KESTIVEN carries the reddest cup so far seen in this class; this with a pure white perianth makes a striking flower which is making friends.

PEGGY, with dainty flowers of purest white and lemon-yellow edged golden orange, is popular, as is the practically perfect PEKING, with a flat ribbed cup of deep orange against a perfectly round perianth of creamy white; however, it is scarce and we will have to wait some time for it.

Dainty ROSE MARIE, with flowers of two shades of primrose; SERAGLIO, a giant flower of creamy white and deep orange-scarlet; SUNSTAR, creamy white petals and a flat yellow cup edged orange; and the showy VARNA, with a flat crown of glowing crimson-red against petals of rich golden yellow, are all novelties worth waiting for.



Archeron



Bonfire



Gertie Millar



Queen of the North

LEEDSI NARCISSUS

DIVISION 4. *Perianth white; cup white or pale citron, sometimes tinged with pink or apricot.*

There are some lovely flowers among the Leeds varieties. They lack the majesty of the Giant Trumpets and the brilliancy of the Orange and Red Cups, but the soft coloring of the Trumpets in this section is pleasing to all lovers of Narcissus. In growth they are similar to the preceding classes, bearing their flowers on twelve- to fifteen-inch stems, and as the number of varieties is limited, their blooming period is shorter than is that of most of the classes.

In the range of prices to suit the average gardener's bulb budget, the rather new GERTIE MILLAR (p. 82) is one of the finest of this section; its widely flaring trumpet goes through a series of changes,

*Her Grace**Duchess of Westminster*

being deep yellow at first, going to primrose the second day, and finishing very pale primrose. The perianth is also temperamental, opening primrose and changing to silvery white. A pleasing scent adds to its desirability. Oftener seen is the splendid DUCHESS OF WESTMINSTER, which also changes color, its pale canary-yellow cup passing to ivory-white which goes well with the pure white perianth. In the same price range is EVANGELINE, whose star-shaped perianth reflexes instead of standing out straight in the conventional manner.

The classic HERA is a lovely flower with a saucer-shaped perianth of milky whiteness and a heavily frilled shallow cup of soft yellow brimming over with fragrance. Do not overlook HER GRACE whose shallow ivory cup is exquisitely curved and rests firmly against the bosom of a snowy white perianth. LORD KITCHENER (p. 85) is a great flower with very broad petals of pure white and a large crown of pale primrose, the edges crimped in a pleasing way; while LOUIS CAPET, much smaller in size, hangs its dainty head, but it is a lovely flower, its tapering trumpet of light primrose bearing a white line on its frilly edge.

MRS. NETTE O'MELVENY's shallow cup of rich lemon is edged with soft orange and nestles against a creamy white, saucer-shaped perianth. Quite different but equally desirable are the snowy white flowers of MRS. PERCY NEALE and the two-toned cups of QUEEN OF THE NORTH (p. 83), which are primrose-yellow edged with a narrow rim of sulphur-white. SILVER STAR's flaring lemon-colored

*Lord Kitchener**White Lady*

trumpet changes to cream the second day, so that the name must come from the starry perianth of silvery white. Its fragrance is almost as overpowering as that of some of the lilies.

Breeders are apparently paying more attention to the Leeds, as there are a number of fine flowers among the newer varieties. DAISY SCHÄFFER, a giant flower with a pure white perianth over four inches across and a primrose trumpet which changes to light canary-yellow, is one of the most important of the novelties. Somewhat similar in form but smaller in size is the splendid DELAWARE.

With petals so twisted that it has been termed a cactus, GRAND CANYON is becoming popular as the quantity increases; the twisted petals are cream-white, and the ultimate color of the trumpet, which is pale lemon at first and then primrose, finally settles down to make a self-colored flower. On the other hand, MITYLENE is quite proper in every way, from the perfectly formed snowy white perianth to the pale lemon saucer.

Interestingly unique is RADIO, with a pure white perianth and a flaring frilled yellow cup with white stripes running down from the edge. Quite the opposite is the refined SILVER PINK, whose white trumpet is flushed a delicate shell-pink, while TUNIS is another spectacular variety with wavy white petals and an ivory crown flushed pale coppery gold at its flanged and serrated brim. Also pleasing are the broad white petals and canary cup of WHITE LADY. Another favorite is the chastely beautiful WHITE NILE with a frilly white crown and a perianth of snowy whiteness.



Moonshine



Agnes Harvey

TRIANDRUS AND TRIANDRUS HYBRID NARCISSUS

DIVISION 5. Includes all varieties obviously containing *Narcissus triandrus* blood.

The Triandrus Narcissus are natives of the Spanish peninsula and are rather dwarf plants with slender rush-like foliage and dainty, small trumpet flowers with reflexed petals. They are delightful subjects for the partly shaded rockery or for filling odd spots where the sun cannot reach them; they seem to thrive in a gritty soil.

There are four of the species obtainable, differing enough in size and degree of whiteness for the fancier to want them all, but the lovely little ANGELS TEARS, or *Narcissus triandrus albus* (p. 87) is the best known, and its clusters of tiny creamy white flowers are simply irresistible. The slightly dwarfer *N. triandrus calathinus* has whiter flowers while those of *N. triandrus concolor* and *N. triandrus pulchellus* (p. 87) are lemon-white, the petals of the latter folding back against the tube like a shooting-star.

Several hybrids of this delightful family have won their way into the hearts of Narcissus lovers, and to see them is to want them all. With a snow-white perianth and a white chalice cup which sometimes takes on a tint of soft apricot, AGNES HARVEY shows its hybrid origin, while the dainty MOONSHINE sticks to the soft creamy white of Angels Tears, its reflexing petals embracing a tiny fluted trumpet which refuses to flare. MRS. ALFRED PEARSON has white petals and a cup of the palest primrose.



Narcissus triandrus albus

PEARLY QUEEN gets its name from the pearly sheen on its creamy petals and short lemon-yellow trumpet, while the regal QUEEN OF SPAIN wears robes of solid lemon-yellow. In two shades of yellow the new ST. PATRICK seems to be the deepest colored of the family, and SHOT SILK probably the most graceful of all, its clusters of three creamy white flowers being just about perfection.

Known as the orchid-flowered Daffodil, THALIA has flowers which are probably the purest white of the hybrids, and, blooming three or four to a stem, furnish cut-flowers of exquisite beauty for artistic arrangements.



Narcissus triandrus pulchellus



February Gold

CYCLAMINEUS AND CYCLAMINEUS HYBRID NARCISSUS

DIVISION 6. Includes all varieties obviously containing Narcissus cyclamineus blood

This is one of the smallest divisions we have to deal with, having but a single species and several hybrids commercially available at present.

The flowers of the species are in drooping clusters of two or three on six-inch stems; the tiny, tube-like trumpet, as well as the reflexed petals, are a rich shade of yellow. FEBRUARY GOLD and MARCH SUNSHINE are two dainty hybrids.



An effective clump of February Gold



Odorus (Campernelle)

JONQUILLA AND JONQUIL HYBRID NARCISSUS

DIVISION 7. *Includes all varieties containing Narcissus Jonquilla blood.*

Because they are usually so catalogued, included here are the Campernelle Jonquils (*Narcissus odorus*) which, although found wild in southwestern Europe, are possibly natural hybrids of *N. Jonquilla*.

The true Jonquils are natives of that same section of southern Europe, and are also found across the Mediterranean in Algiers.

Jonquils have narrow, upstanding foliage and long-stemmed, deliciously fragrant flowers which are not only popular in gardens but are forced in large quantities by the florists for use as cut-flowers.

Of the species, *N. Jonquilla*, *Simplex*, single, and *N. Jonquilla*

flore-pleno, with double flowers, have been garden favorites for generations, furnishing with little or no care generous quantities of long-lasting cut-flowers. The trumpet-shaped flowers are rich yellow in color and produced in close clusters.

Somewhat similar are the CampERNELLES, *N. odorus* (*Campernellii*) (p. 89), the true Campernelle with single flowers and the double *N. odorus* (*Campernellii*) *plenus*. Blooming in clusters of three or four on fifteen- to eighteen-inch stems, they do furnish a lot of color, and the doubles with their masses of both long and short petals present a delightfully jumbled appearance.

Also in this family are *N. odorus rugulosus* and its variety *maximus*, both with rich yellow flowers in clusters on quite long stems.

The Jonquil hybrids present interesting variations in size and character of both plant and flower, in coloring, and in time of blooming. One of the oldest of these is BUTTERCUP, with flowers of pure buttercup-yellow, distinctly different in color from the modern CHRYSOLITE which usually has only one light golden flower to a stem.

The largest in this class, and as yet quite high priced, is the namesake of GENERAL PERSHING, with flowers of the purest Jonquil gold. A favorite of the florists for forcing, as well as a popular garden variety, is the dependable GOLDEN SCEPTRE, with medium-sized flowers of deep Jonquil yellow.

Others in this class are LADY HILLINGDON, NUMA POMPILIUS, TULLUS HOSTILIUS, and the charming WHITE WEDGWOOD.



Golden Sceptre



Odorus rugulosus

POETAZ NARCISSUS

DIVISION 8. *In this group are the Poetaz Narcissus hybrids of N. Tazetta and N. poeticus ornatus, and the Tazettas themselves.*

NARCISSUS TAZETTA (p. 95), the Polyanthus or Bunch-flowered Narcissus, are natives of a zone extending from the Canary Islands to Japan, and include such well-known flowers as the Chinese Sacred Lily (p. 93), Grand Soleil d'Or (p. 94), and Paper-White Narcissus, which are grown in bowls of pebbles and water in living-rooms all over the world.

A general description of the type would say that the flowers, usually four to eight to a stem, have light yellow crowns, much shorter than the perianth segments, are fragrant, and have three-fourth-inch foliage fifteen inches long. Their offspring, the Poetaz,



Laurens Koster

*Aspasia**Cheerfulness**Early Perfection*

have a milder, more pleasing fragrance, rather better growth habits, and are more reliably hardy.

There are three of the Polyanthus type readily obtainable: GRAND SOLEIL D'OR is yellow, the CHINESE SACRED LILY is white with yellow crown, and PAPER-WHITES are pure white. They bloom early and are therefore popular for blooming indoors, both in the house and in commercial establishments. Too bad the subspecies *Canaliculatus* is so uncommon, as it is a dainty little thing with erect bluish green foliage and heads of two to four fragrant flowers with white petals and globular golden cups on stems only six inches high; it just seems to belong in the rock-garden.

Of the hybrids, ADMIRATION seems to be pretty well established, with its pale yellow perianth and scarlet-orange cup, and ASPASIA, which looks more like its *Poeticus* ancestors, has a pure white perianth with a yellow cup; they both have a place, as does DUPLEX, a darker flower whose cup is the deepest of yellows.

Flaunting three or four large flowers of unusual substance on each stem, the enticing ELVIRA fits in well with other early flowers, while her offspring, the dainty CHEERFULNESS, furnishes flowers for cutting which last as long as, or longer than, any of the *Narcissus* family; they are in clusters of three or four, the blooms being masses of cream-colored petals among which short orange-yellow petals are intermingled. EARLY PERFECTION is a popular forcing variety.



Tazetta orientalis (Chinese Sacred Lily)

The starry, flat flowers of FRANS HALS, with their tiny rich orange cups, are easy to look at and pleasant to smell, giving one the same feeling of friendliness as the more spectacular GLORIOUS which has white petals and an orange cup with a red edge, suggesting shade to retain its brilliancy. The giant GOLDEN PERFECTION relies on a tiny cup of pure gold and a wide perianth of shimmering citron-yellow to win admiration; possibly the fact that the gray-green calyx is flecked with gold helps a little. With a name that calls for something better than usual, IDEAL is really a nice Narcissus, and the fact that its flower-stems carry as many as seven blooms made it seem like perfection in 1907. KLONDYKE really bears a suggestive name; its flowers are rich golden yellow and so perfectly proportioned that one can understand why it receives so much attention. "The most beautiful flower in the garden" seems appropriate when seen for the first time.

Although a nice flower, LAURENS KOSTER (p. 91) does not seem distinct enough to be very important, and this would do for MAJESTIC, which seems to be overnamed. On the other hand, MEDUSA does have character, and why it was ever named for the lady with the snaky hair is a mystery. The flowers which appear in clusters of two or three have broad petals of pure white and a fluted crown of fiery orange-scarlet. A spectacular flower one sees frequently at the shows, ORANGE CUP shines as a variety for naturalizing, its yellow and orange flowers looking especially well among grass.

RED GUARD is one of the newer varieties, with brilliant flowers, the glowing orange-scarlet of the little cups being unique. Another novelty, rather high in price as yet, is the beautiful ST. AGNES with pure white petals and a flat crown of the same brilliant coloring as Red Guard. Each stem carries two of these tantalizing little flowers.



Grand Soleil d'Or



Tazetta (Paper-White)

*Horace**Thelma*

POETICUS NARCISSUS

(The Poet's Narcissus)

DIVISION 9. *The true Poet's Narcissus are natives of southern Europe where, from France to Greece, they thrive in moist situations in a little shade. They may be recognized by their snow-white petals, yellow or lemon flat eye or crown, and the fact that the blooms are usually solitary.*

Narcissus poeticus recurvus, the old Pheasant's Eye, is still largely used for naturalizing, and a quantity of those brilliant red eyes against their pure white petals does make a lively spring picture.

The largest of the family is *ACTÆA*, a favorite for exhibition, where its brilliant eye has a chance to sparkle under artificial light, while *COMUS* seems too much like old *Recurvus* itself to need both of them; but there is distinction in the broad, overlapping petals of *EDWINA* and the red of the flat cup is not so burning. A rest from the brilliancy of some of the red-edged cups is necessary once in a while to keep our eyes from tiring!

Other very pleasing varieties of *Poeticus* are *GLORY OF LISSE*, whose yellow cup is rimmed with orange; *HOMER*, a later bloomer with a yellow and red crown; the similar *HORACE*, which is not so tall; *JULIET*, of conventional red-edged cup; *ORNATUS* and its variety *MAXIMUS*, both favorites for naturalizing; *RUPERT BROOKE*, a flower of fine proportion, while *SNOW KING* (p. 98) is noted for a glistening white perianth and a cup with an extra-wide edge of red. *THELMA*'s edge is crimson instead of scarlet.

There are two comparatively recent varieties distinct enough to



Poet's Narcissus naturalized

mention here: the very distinct KENTUCKY has a coffee-shaded perianth and an orange-red cup, while the very striking MINUET shows a small, yellow cup with a frilled edge of scarlet nestling against broad, overlapping petals.



Snow King

DOUBLE NARCISSUS

DIVISION 10. *Here are included varieties with multiplied petals.*

At least a score of Double Narcissus are in commerce, most of which are used by the florists for forcing; few are seen in gardens.

The blooms of VAN SION and other old varieties had a rather unkempt appearance, and their yellow shades were quite liable to be rather greenish under all but the most favorable circumstances; however, there are some lovely things among the newer varieties which are not only very desirable for cutting, but make a pleasing display in the garden. Probably no one but a collector would want all of them, but a few varieties would bring pleasure to the owner of even a small garden.

The chaste flowers of ALBUS PLENUS ODORATUS, the double form of *Narcissus poeticus*, are of the purest white, and being sweetly scented are popular for cutting. Quite different are the carnation-formed, white and canary-yellow blooms of ARGENT, while DAPHNE is another pure white variety with very large, fragrant flowers.

The golden blooms of DUBLOON consist of short petals of canary-yellow and long ones of primrose, somewhat softer than the bright yellow and orange combination of INDIAN CHIEF. White and primrose are a pleasing combination, and these are nicely arranged in the strong-stemmed IRENE COPELAND and look well alongside the rich sulphur-yellow and burnt-orange flowers of LIVIA.



Argent



Daphne



Primrose Phanix



Twink

Really a semi-double, **MARY COPELAND** could be termed varicolored, as there are lemon, gold, and orange petals mingled with the longer ones of creamy white. Another with a three-colored effect is **MOULIN ROUGE**, in colors of primrose, cream, and yellow-orange, while **ROYAL SOVEREIGN** has shapely flowers of creamy white and primrose-yellow.

SNOW SPRITE, a double Leedsi, pure white and lemon; **TEXAS**, pale yellow and brilliant orange; **THE PEARL**, creamy white and sulphur-yellow, are popular varieties, while the semi-double **TWINK** (p. 100), has informal flowers of soft primrose and clear orange.

There are several of the **Phoenix** family: **APRICOT PHOENIX**, **GOLDEN PHOENIX**, **ORANGE PHOENIX**, **PRIMROSE PHOENIX** (p. 99), and **SULPHUR PHOENIX**, all similar in form but different in color, as indicated by the names.



Narcissus, Tulips, and Hyacinths pleasingly combined



Bulbocodium conspicuus

VARIOUS NARCISSUS

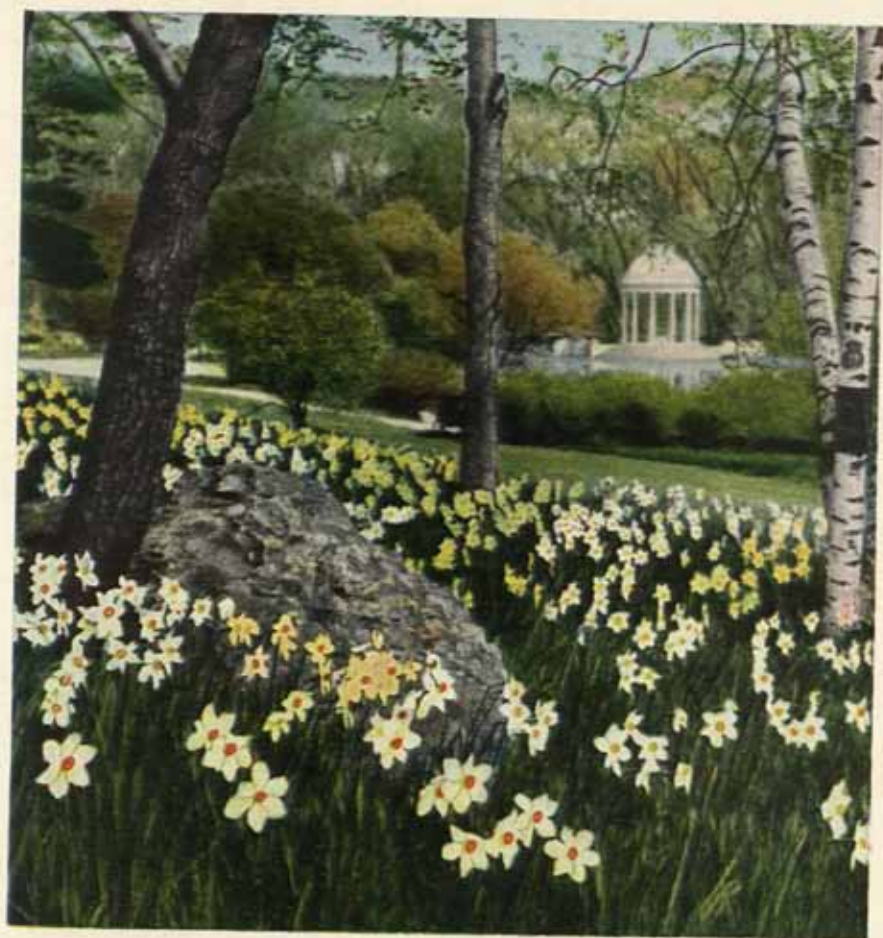
DIVISION 11. Here belong all of the species not taken care of under the preceding headings, including several miniatures suitable only for the rock-garden or especially selected and protected spots.

Lovers of the rare and unusual get a great deal of pleasure from these Narcissus, even if some of them do require a little more attention than their larger and more familiar relatives.

Probably as desirable as any of this group are the aptly named HOOP PETTICOATS, *Narcissus Bulbocodium*, dainty little bulging flowers which delight everyone with their simplicity and their frugal wants—just a bed of sandy, peaty soil with plenty of water in spring when they are getting ready to bloom.

There are three of these obtainable: *N. Bulbocodium citrinus*, the Sulphur Hoop Petticoat, with flowers of pale citron rather than sulphur, as the nickname would indicate, growing six to eight inches tall, just a shade higher than *N. Bulbocodium monophyllus* (*N. Clusi*), the White Hoop Petticoat, which comes from northern Africa, and breaks out soon after the snow goes, with flowers of snowy white. (Real Narcissus fans often bloom it in pots in a cool room.) The third member of the family, *N. Bulbocodium conspicuus*, the Yellow Hoop Petticoat, has one-inch cones of golden yellow, on four-inch stems which point the flowers heavenward. A study of the flower shows a green and yellow envelope extending half-way up the trumpet and then breaking into six slender points which stand out at right angles. Inside the trumpet a slender yellow pistil extends slightly beyond the flower, while the large yellow anthers turn at right angles just inside the mouth, half filling it. It is one of those flowers one wants to tear apart and study.

France and the Iberian Peninsula are the home of *N. juncifolius*, a miniature with rush-leaved foliage and four-inch stems bearing one or two tiny yellow flowers only an inch across, and having flaring cups of the same shade of yellow; the flower-stems are only three to four inches high, in keeping with the tiny fragrant flowers.



NATURALIZING NARCISSUS

Under proper conditions the Daffodils can be "naturalized," or made to grow as if they were "wild."

Open woodland where the trees are so widely spaced that sunlight can reach the plants at least a few hours each day, and sunny slopes or grassy meadows where the grass need not be cut until after the foliage of the Narcissus has ripened, are ideal locations for this practice.

As such plantings are to be permanent, it is absolutely necessary

that the plants be allowed to mature their foliage naturally.

Bulb dealers sell mixtures of bulbs for naturalizing but the best effects are obtained by masses of one variety, and although all types are used, probably the most pleasing pictures are obtained with the *Poeticus* and *Triandrus* families.

Since the bulbs must depend for a long time on the food in the soil where they are planted, careful preparation is desirable. Scatter the bulbs broadcast and "dibble" them in where they fall.



Narcissus successfully naturalized

Lilies





Lilium regale in garden use

LILIES

LILIES have a place in our garden understanding second only to roses. Yet those same gardens have but few of the Lilies possible in America. Until recently we have really failed to know much about this family of noble plants which are outstanding for their beauty, their grace, and their stately magnificence. Dr. Bailey in his *Cyclopedia*, has long deplored their neglect in this country, and has urged sane attention to the Lilies that may readily come to provide a major attraction in our gardens. In his words, "Most lilies are robust, long-lived and of easy culture under a variety of soil and climatic conditions. The beginner in lily culture should always select easily grown kinds, choosing them according to his own individual taste."

In the casual pictorial presentation of this book, an endeavor has been made to show the varieties most easily obtainable and most likely to earn the intelligent interest which will cause further knowledge and advance. It is not in point here to discuss the botanical divisions, and the writers have not entered into the many terminological disputes.

Plants largely of the north temperate zone, Lilies deserve the reasonable attention to their native surroundings that will make success with them easier. It is true that many of the forms are from Japan and China, but this is also true of many of our more familiar garden plants that do well in this country.

Generally speaking, Lilies prefer rich loam, nearly always free from lime, and require rapid and perfect drainage. They do best, for the most part, in light shade, and are benefited by a surrounding ground-cover to keep the soil cool.

Within any Lily bulb there is the basis of a flower-stem for one year's beauty, but if by reason of disease or improper conditions, it cannot also develop a sound reproducing bulb for another year, it does not continue. It is now coming to be recognized that the Lily bulb should come to the garden with live and uninjured roots, like herbaceous plants, so that it may more readily replace the growth that produces the flower of the year.

Those engaging in Lily culture will find valuable information in such important current works as "Lilies: Their Culture and Management," by Woodcock and Coutts, Mrs. Fox's "Garden Cinderellas" and Wm. N. Craig's "Lilies and Their Culture in North America."



LILIUM AURATUM

"The Golden Lily of Japan" is the apt common name of an exquisitely lovely Lily that is tantalizingly uncertain. It comes from Japan, and in its many forms and color variations has long been a garden favorite despite its uncertainty. In congenial surroundings it blooms abundantly on four- to five-foot stems in August and early September, and the large, open blossoms fill the air with a penetrating fragrance that is suggestive of the Orient.

The largest bulbs are not always the best. Select sound bulbs of medium size with roots attached, and set them nine to twelve inches deep in easily drained soil where they will have some shade around the lower stems. Several years ago some newly planted bulbs at Breeze Hill remained dormant for a year before blooming. Oftentimes they exhaust themselves in flowering. If one finds evidences of Lily mosaic in the bulbs, they should be destroyed at once. The *Platyphyllum* form of *L. auratum* has larger flowers,

produced on a more robust plant, not always quite so tall, and having handsome broad foliage. The spots tend to concentrate nearer the center of the flower, emphasizing the spotless purity of the tips of the enormous petals. With sound bulbs and live roots, this Lily usually succeeds more often than the type.



Lilium auratum platyphyllum



LILIUM BATEMANNIÆ

If this book laid pretense to botanical accuracy, this fine and easy Lily would be classed among the *L. dauricum* varieties. Commercially, it has the title we use, and can be thus obtained. The name seems to have been given to the Lily by the English Lily expert, Dr. Wilson, when first it came from Japan to Mrs. Bateman, "a well-known Liliophile" of Great Britain.

An open sunny location in the border suits it best. Its general color is pale orange or apricot, sometimes tinged pink, and it is entirely unspotted. The plant grows to an average of three feet in height, from a bulb resembling that of the familiar Tiger Lily. Plant the bulbs four to five inches deep.

Its bright blooms are at their best in late July and early August.



LILIUM BROWNI

"This is a trumpet lily of outstanding beauty," writes Mr. Woodcock in the great Kew Lily textbook. It is as well a mystery Lily, its origin being uncertain, though it has been known and esteemed in England for more than a century. On a three- to four-foot stem are carried, almost horizontally, these great and fragrant flowers, creamy white within, but a purplish rose, occasionally tinged with green, on the outside. A stem-rooting Lily, its bulbs must be planted eight to ten inches deep in fertile but sandy soil, perfectly drained.

"It did extremely well with me in front of shrubbery, where the shrub roots were not near enough to harm it," writes America's veteran Lily specialist, Mr. W. N. Craig, of Massachusetts. He also tells of a ground-cover of *Viola cornuta* that kept the soil surface cool. Blooming as it does in late June and early July when the Regal Lilies are at their height, it has undoubtedly been overshadowed by them. While it is not as easy to cultivate as *L. regale*, it has definite garden value, and should be better known.



LILIUM CALLOSUM

Not among the ordinary and easy Lilies, this species nevertheless commends itself by its similarity, in a way, to *Lilium tenuifolium*. It is taller and has larger flowers, and its color and general style refer more closely to the Golden Gleam form of *L. tenuifolium*, though deeper in color.

As the picture shows, it is both graceful and distinctive. With a general tone of orange, the petals are sparsely sprinkled with spots and lines; the filaments are green and the very prominent anthers are red-brown or brownish orange. Each stem bears six to eight open bell-shaped flowers, somewhat recurved, and of more substance than *L. tenuifolium*, near which it bloomed happily in the Breeze Hill rock-garden. Plant the bulbs six inches deep.



LILIUM CANADENSE

A Lily "wild" or native in the eastern United States and Canada is this. Its graceful flowers vary from yellow toward red, and all of them have inside an abundance of purplish brown spots. The plant itself grows from two to four feet in moist open meadows, which it seems to prefer, though it is also found in partly shaded locations.

This pleasing native Lily comes into flower in late June and lasts about four weeks. The bulbs may be transplanted in late summer after the stems die down, and need to be set from eight to twelve inches in the ground. Plant them in the wild garden.

Some gardeners attempt to collect these Lilies in their native haunts but are seldom successful in transplanting them to cultivation. As with most of our native plants, it is best to obtain the bulbs from a reliable nurseryman.



LILIUM CANDIDUM

The many "common" names of this pure white old Lily attest its wide acceptance. It is the Annunciation Lily, the Bourbon Lily, the Lent Lily, the Madonna Lily, St. Joseph's Lily; but in America it is most generally known as the Madonna Lily. Very old it is, and its precise nativity is uncertain, though it is in all the ancient garden writings. That famous herbalist, John Gerard, in 1597 called it "the white lillie," and gave as its traditional origin that it sprang from the milk of the goddess Juno, spilled when she nursed the infant Hercules.

It is a very lovely, very sweet, and very tantalizing Lily. The great Kew Lily book says "In England it is one of the hardiest and



*A good clump of *Lilium candidum**

most easily cultivated of all lilies, but it is rather capricious. You will always see the best clumps of it in cottage gardens. . . . No hard and fast rules, no definite recipes, can be given for success with this lily." These words are just as true for America.

Yet we will keep on with Candidum, for there is nothing else so white, so sweet, so pure.

Differing from other Lilies, it is best planted in late midsummer. Sound bulbs should succeed if covered about two inches with good soil. Its evergreen leaves defy the winter.



LILIUM CAROLINIANUM

Of the Martagon section is this fine small American Lily, also called the "Southern Swamp Lily," which seems a smaller edition of the outstanding *L. superbum* of the southern Alleghanies. It has much the same color variation in its orange and salmon hues, and adds fragrance to its attractions. While it has a swamp origin, like all other moisture-loving Lilies it will not persist if planted where it has "wet feet." Those who go afield for swamp plants always find this and similar Lilies on a sufficient foundation.

Found completely hardy in New England, this Carolina Lily comfortably endures the Middle States winters. Even in the relatively dry shale of Breeze Hill it rears its three-foot stem, on which in late July or early August appear the flowers. A stem-rooter, it needs to be planted five inches deep, and will grow in full sun provided it has a ground-cover. Low undergrowth helps to conserve the soil moisture as well as to provide a setting for most Lilies.



LILIUM CERNUUM

From the troubled lands of Asia, Korea and Manchuria, a peaceful and pleasant recent contribution is this delightful Lily. It suggests *Lilium tenuifolium* in form, and its bulb is seemingly identical, but differs in bloom color, which is a lilac-pink. There are wine-purple spots and very prominent purplish brown anthers, hanging delicately poised, as may be seen in the picture. The plant is about a half-yard high, and carries in June and July from two to six—occasionally more—softly hued flowers.

At Breeze Hill this excellent little Lily did well in the rock-garden. Dr. Wilson says he found it in alluvial soil in the valley of the upper Yalu River, "growing among grass and low shrubs, in exposed situations." "The bulb," Wilson writes, "is found from three to five inches down," which indicates the depth at which to plant it. The authorities agree that it will best be grown from seed, like *L. tenuifolium*, after a start is obtained through purchased bulbs. Dainty Lilies like *L. cernuum* deserve more attention.



LILIUM CHALCEDONICUM

The "Scarlet Turks-Cap Lily" is an old contribution to our gardens from Greece. "It is found on the mountains of Thessaly, the Ionic isles and in Greece proper, and was introduced into cultivation from Constantinople in Queen Elizabeth's time," write the Kew Lily authorities. Dr. Bailey insists that "it should be more generally grown," because it is so distinct in form, so rich in color, and so pleasing when, in July or early August, its brilliant blooms appear against a background of green. The old herbalist, Parkinson, called it the Scarlet Martagon.

The bulbs need to be planted about six inches deep. The three- to four-foot stems have silvery green, long-pointed leaves which cling to the stem. There is a desirable *Maculatum* variety of stronger growth, the flowers of which are spotted black at the petal base.



LILIUM COLUMBIANUM

The name at once refers this little Lily to the prolific West Coast, great for its scenery, salmon, and rich flowers. Dr. Bailey relates it to *L. Humboldtii*, though much smaller and less dependable. It is known also as the Columbia Tiger Lily, or the Oregon Lily. As the picture shows, it is of the Turk's-cap type. The flowers are golden yellow to reddish orange, sometimes showing purplish dots, while the outstanding anthers are red. "A good lily for well-drained soils in sections where it will winter," writes the reliable Lily man, W. N. Craig. In England it has done well in bracken, and this is characteristic of its native haunts.

The bulbs are best planted four to six inches deep in sandy loam, exposed to sun or partial shade. The stem, under three feet, produces a dozen or more flowers from late June to early August.



LILIUM CONCOLOR

To China, the source of so much of our best garden material, we owe this dainty "Star Lily," which has been raised commercially by Japanese nurserymen. From the Kew description we learn "it grows one to two feet high and bears a profusion of erect starry blooms of glossy brilliant scarlet, quite unspotted and slightly fragrant . . . in June-July. . . . A choice subject for the rock-garden in association with ferns of moderate growth. It should be planted three to four inches deep." Craig says it is "a dependable variety to plant in the colder parts of the United States." He adds that it may readily be grown from seed, and calls attention to the quite small bulbs, "found covered no more than two to four inches . . . growing in thin grass and among shrubs in full sunshine." The bulbs have been known to exhaust themselves, because of overabundant flowering.

Dr. Wilson was of the opinion that it was probably sent from Canton on some ship of the old East India Company. It appears to have been a favorite in Chinese gardens.

There is also an American or "Dropmore" variety, "more vigorous and more floriferous," produced by F. L. Skinner, of Canada.



LILIUM CROCEUM

The "Orange Lily" of Europe, or "Feuerlilie," specifically in Germany, is also classed, even by our favorite Kew writers, as *Lilium aurantiacum*. A cliff-loving Lily from Corsica, "finding root-home where none can hardly be," it so blooms that "up and down the sheer and terrible walls twinkle at you from afar a thousand little sparks of flame that are the golden goblets of the lily held up to catch the daylight." But in the garden it "pays handsomely for richer fare." In the north of Ireland it has long been the emblem of the Orangemen.

This striking Lily is known for its vigor and easy culture. A stem-rooter and entirely hardy, it does well planted six inches deep in any good garden soil. In late June or July comes its abundance of showy blooms on two-foot stems.



LILIUM DAURICUM

As discussed under the heading of *Lilium elegans*, this excellent and popular garden Lily of Japanese origin is very similar to that species, and there are innumerable forms, hybrids, and mixtures between the garden groups that may be broadly covered by the two headings. The Dauricum Lilies (call them Dahuricum or Dauricum if you like, for there is no ascertainable difference) are broadly the Candlestick Lilies, and their brilliant blooms do burn brightly on upright stems one and one-half to two feet in height.

Peter Collinson, a famous English gardener, often secured from his American friend, John Bartram, many floral treasures from the "new land." In his garden at Peckham, Collinson had this then new Japanese Lily, and there the botanist Catesby saw it. Believing it to have originated in America, he described and figured it scientifically as *Lilium pennsylvanicum*, or the "Red Lily of Pennsylvania," thus leading to much botanical confusion which, however, did not hurt the excellent Japanese Lily! All written on page 123 about *L. elegans* applies also to the very hardy Dauricum or Candlestick Lilies.



LILIUM ELEGANS

Here is an easy and very valuable garden Lily, apparently of Japanese origin, which has been so much considered, pictured, cultivated, hybridized, and written about that its botanical status is anyone's guess. Its garden value is high, and we can well grow it under whatever name is convenient. If an attempt were here made to present all the names appertaining to it, pages would be required. The Lily-loving and highly botanical explorer, Dr. E. H. Wilson, presents eleven "new combinations" in terminology, and cites forty-two synonyms! As here mentioned without pretense of accuracy, it seems to include *Lilium Thunbergianum*, probably *L. dauricum* (separately mentioned on opposite page), *L. umbellatum* (page 154), and others.

But all unite as excellent early-flowering Lilies, red or orange, with varied colors and at least one clear yellow sort (Alice Wilson). They average a half-yard high when in bloom, and show an abundance of rather short and somewhat indiscriminate foliage. The whole group form enduring and brilliant border plants, especially suited for the front of the border. They increase easily by division. In the border they tend to be almost invisible soon after the flowers have fallen; thus they easily "get out of the way." In Japan, some sorts are eaten, just as *L. auratum* bulbs serve for food.



LILIUM FORMOSANUM

Introduced as *Lilium philippinense formosanum* by Dr. Wilson, this Lily has now been given specific rank under the simpler name. Though discovered nearly eighty years ago in northern Formosa, it was not until 1918 that seed first came to America. The flowers shown here are seedlings of Wilson's variety, which grows five to six feet tall and gives interest to the autumn garden.

A September-blooming Lily, it has strong but graceful stems which support clusters of three to five slender trumpets. Delightfully fragrant, these stately flowers are greenish or yellowish white with a suggestion of brownish rose along the midribs.

Few Lilies are more easily grown from seed. If started in early spring, bulbs of flowering size will have developed by the second year. Set the mature bulbs eight inches deep.



LILIUM GIGANTEUM HIMALAICUM

"This majestic lily from the Himalayas is the noblest of them all, whether judged by the height, its foliage, or its immense trumpet-blooms. The massive stem springs to a height of six to twelve feet. The broad basal leaves of dark shining green form a rosette. . . . The great fragrant trumpet-blooms, which appear in July-August, thrust forward and downward; they are white, with reddish purple stripes." So reads the description by Woodcock and Coutts. Dr. Wilson, who knew the Lily first-hand in the wild, says "under cultivation this lily often exceeds the dimensions given."

This giant of the family is growing in America, and makes, even when not in flower, an impression of grandeur. It is said to flourish if smaller bulbs are grown for a year before bloom is expected, in open shade and in rich and moist woods soil. The heart-shaped leaves are curiously unlike those of any other Lily.



LILIUM HANSONII

Of the Martagon family, this distinct and desirable Lily does well in American gardens despite its origin on Dagelet Island, off the coast of Korea. Its yellow-dotted, waxy petals have a peculiar exotic appeal as they spread from the three-foot stems in late June or early July. A rather musky fragrance is emitted from these showy blossoms.

This dependable old Lily is a garden standby in America. It likes moderate shade, and is not at all "finicky" as to soil. At Breeze Hill it has been lifted and replanted but once in fifteen years; it is surely a long-lived Lily, and when planted should be placed where it will not often be disturbed. The bulbs should be set six to eight inches below the surface of the soil, and as with practically all Lilies, rapid drainage must be provided.

Several hybrids have been developed in recent years by that brilliant English hybridist, Mrs. R. O. Backhouse.



LILIUM HARRISI

The Bermuda or Easter Lily of the florists, *Lilium Harrisi*, which is grown in great quantities at all seasons through modern cold-storage methods that hold the bulbs, is really *L. longiflorum* eximium. It came originally from the Liukiu Archipelago, near Japan, and has never been found wild elsewhere. There are numerous trade forms, all developed for forcing under glass. Curiously enough, the Bermuda soil to which this Lily has adapted itself so admirably shows a definite alkaline reaction because of the presence of lime.

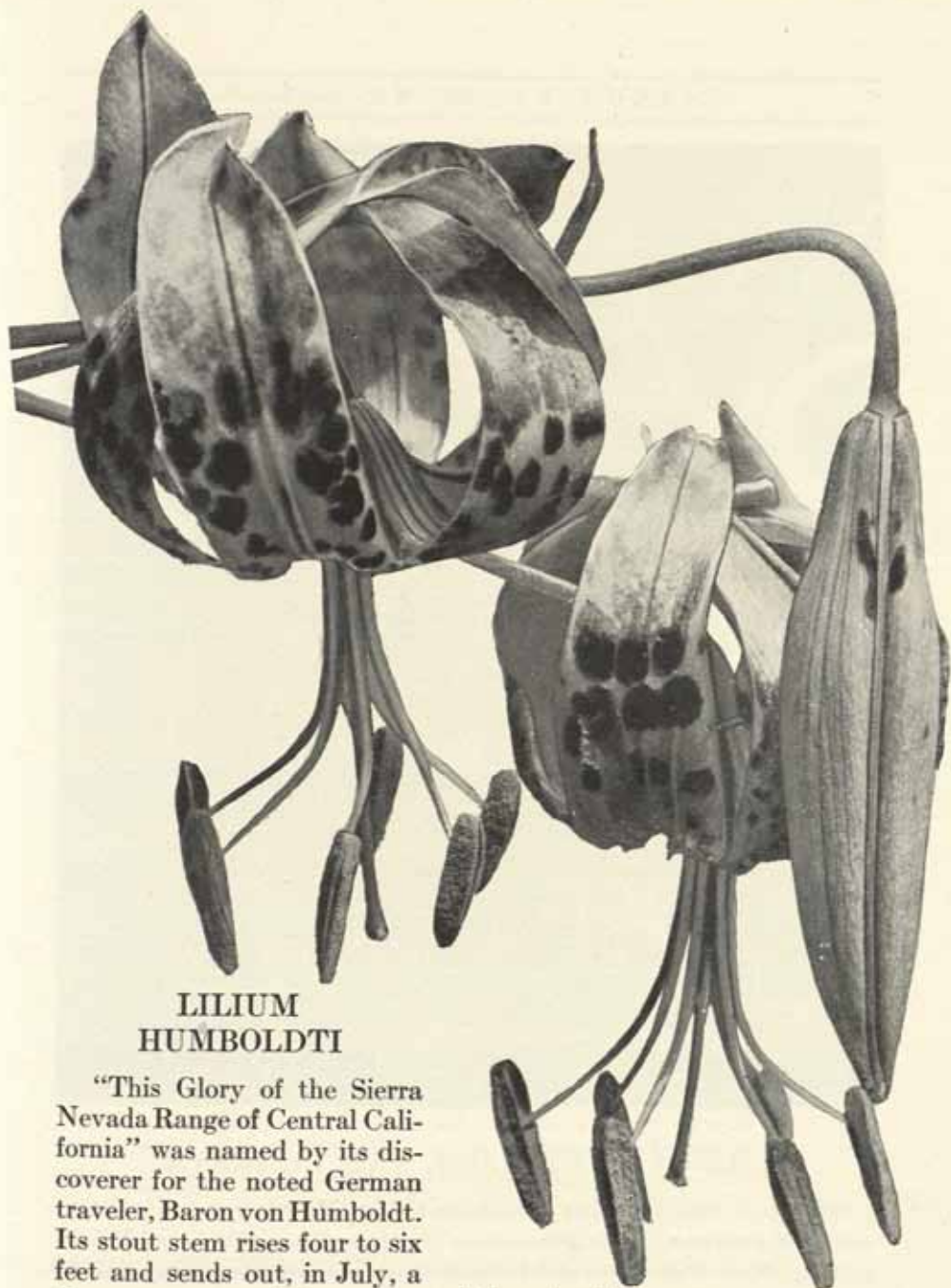
The story of how this important Lily was almost lost in Bermuda through disease, and how the troubles were surmounted, is a commercial drama. (See page 133 for the garden use of *L. longiflorum*.)



LILIUM HENRYI

A thoroughly distinct and most dependable garden Lily, it is sometimes miscalled the orange Speciosum, though it has no kinship with *L. speciosum*. The name commemorates Prof. Augustine Henry, who discovered it in the Chinese province of Hupeh in 1888. It owes its wide distribution, however, to large shipments of it collected by Dr. Wilson in 1900 and sent to England. The same wise plant-scout sent it to America in 1908.

In China, Wilson found that this enduring Lily did its best in "a rock pocket filled with decayed vegetable matter and soil washed in by the rains." At Breeze Hill it has long flourished in a border facing rhododendrons, where it grows to four feet or more, and the wiry stems always need staking. The plants bear from two to six flowers, which hold color better in partial shade. The bulbs are mahogany colored, and need to be planted eight to ten inches deep.



LILIUM HUMBOLDTI

"This Glory of the Sierra Nevada Range of Central California" was named by its discoverer for the noted German traveler, Baron von Humboldt. Its stout stem rises four to six feet and sends out, in July, a dozen or more nodding orange-red, three-inch blossoms.

The bulbs must be planted six to nine inches deep, and may not bloom the first year. The *Magnificum* variety is an improvement.



LILIUM HUMBOLDTI, VAR. SHUKSAN

Shuksan, a rich apricot-colored flower with dark maroon spots, is one of the recent hybrids raised by the late Dr. Griffiths, of Washington. Far more dependable than its parent, *Lilium Humboldti*, it makes a striking display in the July garden. Strong four-foot stems carry ten or more brilliant flowers. Plant the bulbs six to nine inches deep and provide some shade around the roots.



LILIUM JAPONICUM

This very lovely pink Lily is also known as *Lilium Krameri*. In Japan it is the Bamboo Lily or Sasa-yuri. Dr. Wilson says it "is an inhabitant of dense shrubberies, margins of woods and forest glades in Central Hondo from about 1,000 to 3,500 feet altitude." Then he tells of finding it in bloom in June of 1914. "It was raining heavily, and I was tired, hungry, and drenched to the skin . . . but I had to linger and drink in the beauty of this lily. . . . I marvelled how such a tiny bulb could produce two, three and even four large funnel-shaped blossoms. . . . Where this lily grows it never suffers for lack of water. . . . It is stem-rooting."

Not an easy Lily, this unique beauty is worth the care it requires. At Breeze Hill it was a pale wild-rose pink, with a mauve rib down the center, heavy, deep orange anthers and a strong Lily fragrance. The bulbs are best planted six to seven inches deep in gritty loam. Some growers add charcoal and leaf-mold to the soil. There is also a white form.



LILIUM LEUCANTHUM CHLORASTER

This rather new (to cultivation) and very great Lily was formerly known as *Lilium centifolium* until the great "Chinese" Wilson, who had contact with it in several of his exploring trips, definitely named it. Referred to as a form of *L. Browni* for a time, it has, since Dr. Wilson's death, been connected with the explorations of Reginald Farrer, so that the entire existing stock traces to "two plants in two Chinese cottage gardens just outside Siku in South Kansu." It often grows nine feet tall and flowers in late July or August.



LILIUM LONGIFLORUM

While this is "the well-known white Lily of florists," it can be effectively used in the garden, but without dependence on its continuance. Yet such a display as the Breeze Hill picture here presents is well worth the quite moderate cost of the bulbs that produced such beautiful, richly fragrant blooms. The protection over the winter must be adequate, or cold-storage bulbs may be planted in the spring. Bulbs set eight inches deep will respond readily to garden treatment. (See page 127 for the greenhouse form.)



LILIUM MARTAGON

A very old European native is the Turban Lily or European Turk's-cap. The popular names describe its form. John Gerard told about it in his 1597 "Herball," and it was frequently mentioned in old garden literature. High altitudes in many parts of Europe have been its natural home.

The waxy petals of the flowers are a dull purple color, pleasingly reflexed, and marked with black spots. It is of wide-spread adaptability, and grows easily when planted about eight inches deep in gritty soil. The White Martagon is by far the best form.



LILIUM MONADELPHUM SZOVITZIANUM

Here is an important Lily which grows naturally in the partially shaded woodlands of the Caucasian Mountains, and it is almost buried in its name. The species name *Monadelphum*, is one of botanical significance, while the second and difficult name commemorates Josef Szovits, a Hungarian plant collector. It represents a form said to be much better than *Lilium Monadelphum*.

Disregarding nomenclature, the Lily itself comes on a stem three to five feet tall, with large, open blooms of bright canary-yellow, spotted with black and further accentuated by the bright brown pollen on the anthers. It blooms in June and should be planted five to seven inches deep in stiff garden loam. Provide partial shade or at least shade around the roots for this little-grown Lily, which should have more attention. Tall-growing Lilies like this variety may be grouped with perennials or shrubs of contrasting color and form to accentuate their beauty and to provide a setting.

*Lilium pardalinum*

LILIUM PARDALINUM

Sometimes called the Western Tiger Lily, this highly esteemed California native also has the common names of Leopard Lily and Panther Lily. It surely takes high rank among the nineteen native American Lilies. All our American writers on Lilies are enthusiastic about it, as witness Mrs. Helen M. Fox in "Garden Cinderellas": "In California from the Mexican border to the north of the state, from sea level to 5,000 feet. In the northern Coast ranges it is likely to grow along the banks of a small stream

. . . . It grows in damp meadows in the high mountains. . . . It glories in sunshine and exposed places. . . . In Washington, D. C., it thrives in both sun and partial shade. . . . It is being grown at the Harvard Botanical Garden, on Cape Cod, and in Peekskill. It is a handsome hardy lily."

Often compared to *Lilium superbum*, which they closely resemble, the scentless blooms of this gay Californian are orange-yellow, spotted maroon half the way, and blend into a rich bronzy shade of orange-red at the tips.

Stems four to seven feet tall sometimes carry the flowers in clusters. As with many of our native plants, there are noticeable variations in color, undoubtedly the result of natural hybridization.

A bog Lily, it prefers moist but well-drained soil in full sun. Under agreeable conditions the bulbs multiply rapidly. Set them eight inches deep.

Widely and appropriately advertised as the "Sunset Lily," and in England known as Red Giant, this natural hybrid between two Californian natives, *Lilium pardalinum* and *L. Humboldtii*, is surely a magnificent plant, producing strong stems which at Breeze Hill were four to five feet high, carrying one to four great Turk's-cap flowers of distinction and beauty. In the West the Sunset Lily grows much taller, but everywhere the reports indicate its high general garden adaptability, its hardiness, and its brilliant color.



Lilium pardalinum giganteum

Like other Lilies of this type, the bulbs must be covered fully eight inches with rich, moist soil and have ample drainage. Indeed, all Lilies require perfect drainage; they will not flourish with "wet feet," and even Swamp Lilies are found to have a foundation above water.



LILIUM PHILADELPHICUM

John Bartram, the founder of America's first botanic garden, sent some bulbs of a native American Lily to his English friend, Peter Collinson, about 1735. This capricious Lily came to be known as *Lilium philadelphicum*. It is native in many parts of the United States and is known as the Wild Red Lily or Wood Lily. Often found in partially shaded woodlands in late June and early July, its orange-red blooms, borne singly or in clusters, stand out like flaming tapers.

As with many of our extraordinary native plants, it is difficult to establish in gardens because of the deeply rooted bulbs. If we cannot have it in cultivation, we can enjoy it in the wild. However, there are those enthusiasts of native flowers who will attempt to grow it, and some have succeeded. In recent years plant-lovers have achieved amazing results by giving sympathetic attention to the natural requirements of many of our wildings.



LILIUM REGALE

For the remarkable garden value of this, Dr. Wilson's finest gift to the world as the result of his three trips to western China, reference is made to the frontispiece of the Lily section, page 106.

The Regal Lily is truly what its name implies in beauty and in adaptability. It is of the trumpet group, and the fragrant blooms carry lovely shades of purple outside and yellow inside. Its wiry stems support it adequately. At Breeze Hill we have bloomed it in seventeen months from seed, and it ought to be as generally used as geraniums or gladiolus. In buying bulbs, the purchaser should refuse those from which the roots have been removed; those roots are needed to produce vigorous plants. *L. regale* will grow in full sun, and should be set at least eight inches deep.

Dramatic indeed is the fascinating story of the discovery of this Lily which "Chinese" Wilson found growing in small soil-pockets of the steep cliffs in the province of Szechwan in 1903.



LILIUM ROEZLI

The very graceful *Lilium Roezli* is sometimes considered to be a variety of the Western American *L. pardalinum*. It was discovered in the Siskiyou Mountains, ranging from upper California into Oregon by the successful collector, Benedict Roezl, who came from Prague. He found other important Western Lilies, including *L. Humboldtii* and *L. Washingtonianum*. Its distinguishing character is the clear orange color, and it also has a peculiar delicacy of form.

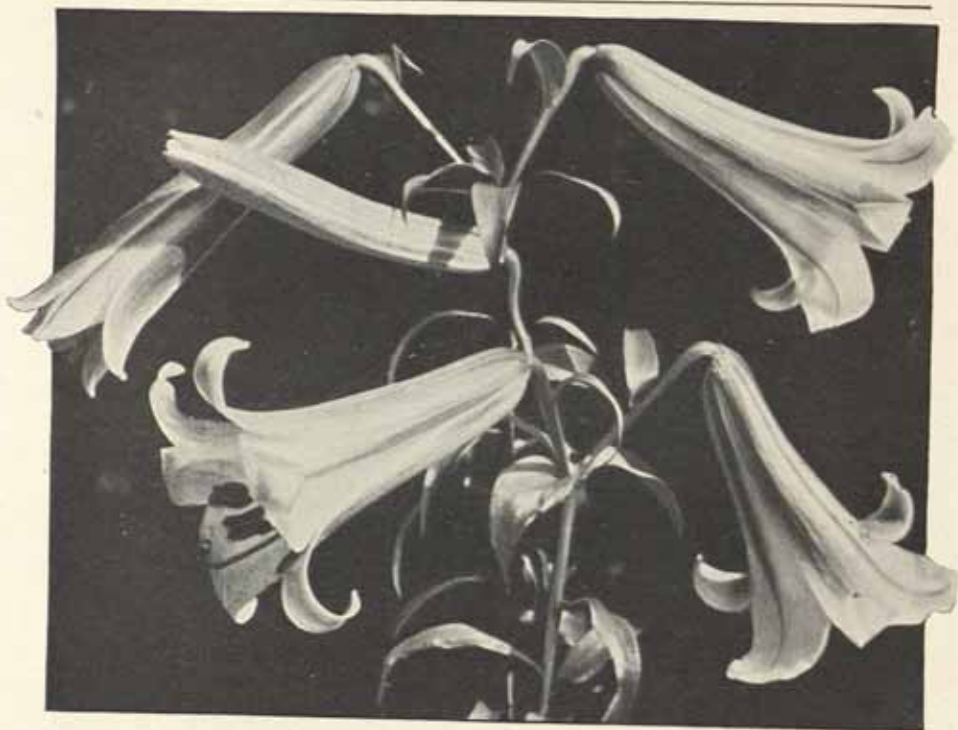
That veteran California plantsman, Carl Purdy, has made it well known; he found it growing in bogs and also in alluvial soil rich in humus. Plant it four to six inches deep. Its stem reaches four feet, and at Kew Gardens it has done well in a border among shrubs. Its lovely blooms appear in June and July, and there are six to twelve of them on each stem. There is also a deep blood-red variety known as *Rubrum*.



LILIUM RUBELLUM

From Japan comes this dainty little Lily, seeming like a dwarf edition of *Lilium japonicum*. Very early, its fragrant blooms appear in late May or early June. They are particularly charming because of their shades of pink, running from a mere blush to rose-pink, and often having maroon dots at the base of the petals. Essentially Alpine in character, it has nevertheless endured seacoast conditions at Kew. Dr. Wilson found it with other Lilies and dwarf shrubs among grass. The English writer Goldring calls attention to differences between it and *L. japonicum*, for which it had been mistaken, as the *Rubellum* Lily "has shorter stems, broader leaves, and less open flowers." Seldom more than eighteen inches tall, it will fit well into a shady corner of the rock-garden.

Seemingly, this is one of the Lilies that suffer from rough handling, and those who adventure with this real gem should insist on bulbs with live roots, protected as any herbaceous plant should be when transplanted. In our climate *L. rubellum* requires sandy or gravelly soil, with thorough drainage. It needs planting four to six inches deep. Obviously this pink beauty is worth engaging the efforts of those who are willing to really try to grow it.



LILIUM SARGENTIAE

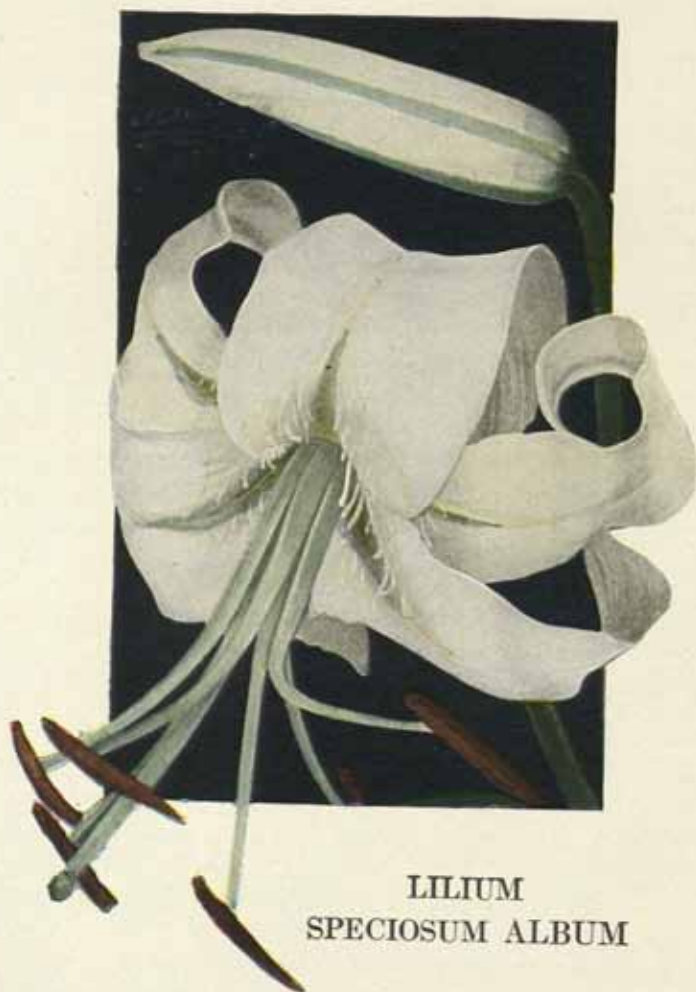
This truly magnificent Lily is hardy as far north as Boston. Dr. Wilson, who discovered it in Western China and named it in honor of the wife of his great chief, Prof. Charles Sprague Sargent of the Arnold Arboretum, says that the bulb is indistinguishable from that of *Lilium regale*. It requires much the same treatment and depth of planting.

As the picture shows, the Sargent Lily is a deep trumpet when it opens in June to July on four- to five-foot stems. The impressive, richly fragrant blooms are pure white, with a golden yellow throat, the outside being rather generally suffused with purplish brown shades.

Attention is called to the fact that this fine Lily is not as ruggedly hardy as *L. regale*, and that it needs to be protected against the mean botrytis fungus that attacks Lilies, by spraying at various times with Bordeaux mixture. It can readily be grown from seeds, which will flower the second year, but better from bulbils which form plentifully in the axils of the leaves.

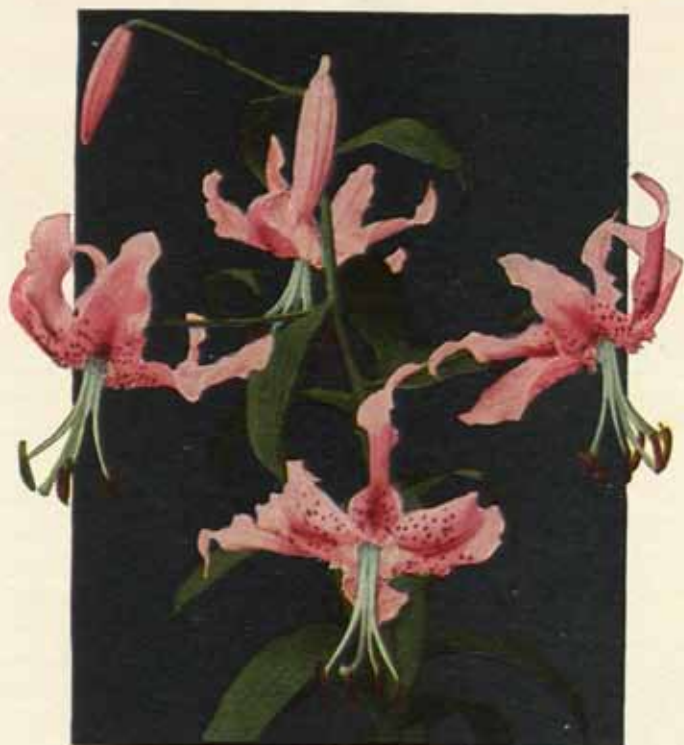


Lilium speciosum growing freely



LILIUM
SPECIOSUM ALBUM

From Dr. Wilson's "Lilies of Eastern Asia" we take the rather reserved statement that "this is one of the earliest known and most satisfactory of Japanese lilies." Dr. Bailey tells us that this Showy Lily, erroneously called *Lilium lancifolium*, is "one of the most beautiful and satisfactory of all lilies, robust, permanent, easily grown and highly recommended." The Kew writers, Woodcock and Coutts, say: "For the challenging and almost aggressive beauty both of this lily and of *L. auratum*, it is difficult to choose between them. They are certainly the two queens of the lily world."



LILIUM SPECIOSUM MELPOMENE

Named for one of the nine muses of classical mythology, this richly beautiful Lily, carrying deep carmine flowers which many prefer to the Rubrum form, is here presented. One account of its origin relates to the enterprise of an American nurseryman, C. M. Hovey, who in 1844 obtained many Speciosum varieties on a visit to England, and hybridized them with each other and with many other Lilies. Of the results, this Melpomene sort seemed best to him, and he propagated it. But in the course of time it died out, whereupon the Japanese growers made another and similar selection. It is this strain, we are told, that now continues Hovey's variety and carries its distinction in color.

Regardless of its origin, Melpomene is a most desirable form of one of our finest garden Lilies. Some gardeners grow it in pots together with *L. auratum* for summer flower shows.



LILIUM SPECIOSUM
RUBRUM

It is coming to be believed that failures with Japanese Lilies are largely due to unsatisfactory bulbs. Purchasers should obtain sound bulbs, free of disease, and preferably with live roots, to support the production of a continuing bulb. Plant them at least ten inches deep in a sunny location. They prefer slightly acid soil that drains freely, such as, indeed, is the requisite of most Lilies. For striking effects, plant them in groups of three to five or more together, with masses of white phlox.

There are many forms of the Speciosum Lilies. On page 143 may be noted the placing and the effect of the normal type variety. The sheer beauty of the pure white form, Album, is heightened when it is planted near evergreens. Several forms of *Lilium speciosum rubrum* are in the trade, and all are worthwhile.

LILIUM SULPHUREUM

"Essentially an aristocrat and one of the noblest of all lilies," writes Dr. Wilson in discussing its botanical status. (He calls it *Lilium myriophyllum*, var. *superbum*, while Dr. Bailey prefers the name above.) While it is found to be only half hardy in England, Miss Preston reports that the bulbs carried over at Ottawa and flowered at Hamilton, Ontario. It is so stately and beautiful that it is well worth being grown in pots, to be wintered indoors. More than thirty years ago F. H. Horsford, a Vermont nurseryman, featured this Lily. In the cold climate of northern New England, he was successful in growing it by providing a heavy mulch to exclude severe frost. He found winter storage possible and satisfactory.

The plant sometimes grows ten feet high, with six to ten flowers. It can be propagated from the bulbils which form in the axils of the leaves. The astonishing flower, funnel-shaped, fragrant, and very large, is sulphur-yellow inside, tinged outside with claret along its seven- to twelve-inch length. The stem-rooting bulb needs to be planted ten to twelve inches deep inside or outside.

*Lilium sulphureum*



LILIUM SUPERBUM

Well named is this grand native Lily, also called the American Turk's-cap and the Swamp Lily. Dr. Bailey calls it "the most magnificent and showy of native North American species." The English Kew writers say that it was the third American Lily to be introduced into Europe, and tell an interesting story of the sensation it created there. It takes kindly to cultivation if given moist, lime-free soil, and is surely a superb garden adornment, worth giving what it needs for success.

The bulbs of this true Superbum are in rhizomes of at least two, and look like the old-fashioned dumb-bells used for exercising. They work through the soft ground in which they are found six to nine inches deep. Planted in the edge of a shrubbery, the noble flower-heads stand out vividly against a green background. Indeed this outstanding American native has a highly decorative landscape



Lilium superbum growing luxuriantly

quality which should not be overlooked. Growing naturally amid the abundant plant-life of the American waterside, this Lily flourishes in company with ground-cover plants. In planting, much care is necessary to avoid injuring the curious "double" bulbs.



LILIUM TENUIFOLIUM

Fully natural size are the flowers shown above to introduce a favorite Lily from China which is widely grown and greatly admired. Dr. Wilson found it distributed "from the Altai mountains through Eastern Siberia . . . to the Japan sea," but not in Japan.

A slender stem-rooting Lily, its small bulbs must be set three or four inches down. Although it is not very persistent, it can be easily



Lilium tenuifolium, Golden Gleam

renewed from the plentifully produced seeds. It is ideal for the rock-garden where it blooms in June on wiry stems often two feet or more in height. The form and style of this dainty Lily are best seen in the yellow hybrid form known as Golden Gleam.



LILIUM TESTACEUM

An aggravatingly lovely thing is this "Nankeen Lily," as it is called for its unique color. The aggravation is at the scant supply, making the bulbs high-priced; but we must have it! Supposed to be a garden hybrid of *Lilium candidum*, it is, like that essential Lily, a base-rooting form, and is planted under barely three inches of soil. It is also peculiar in being indifferent to lime, and seems to prefer an alkaline soil.

The blooms appear in July, in clusters of from two to twelve. Not only is the color unique, but the fragrance as well. The flowers have a peculiar elegance of form and stem habit, and the plants, growing to four or even five feet, are surely an ornament in the garden.

Lilium testaceum just "happened" in a European garden, probably in Holland, about a hundred years ago. It has never been found in the wild, but has been reproduced by hybridizing *L. candidum* with *L. chalcedonicum*—a most fortunate cross.



LILIUM TIGRINUM

Known and grown everywhere in the temperate zone, and an "escape" from gardens in some regions where it had established itself, this, in the words of Dr. Wilson in "The Lilies of Eastern Asia," is "probably the oldest cultivated lily. It has been grown for more than a thousand years by the Chinese for its bulb, which they esteem as an esculent." Its bold beauty has long made it a favorite American garden subject.

Late summer—August, even to September—is the blooming period. The stiff stems rise to four feet or more, and the characteristic blooms are abundantly produced.

A stem-rooter, needing at least six inches of covering, the Tiger Lily enjoys rich soil; yet it is subject to a mean botrytis fungus. Therefore, effort should be made to obtain sound bulbs of assured integrity, and it deserves clean soil that has not previously grown Lilies. The axillary bulbils germinate readily.



LILIUM UMBELLATUM

This useful group, including what are known as "Candlestick Lilies," was previously referred to in discussing *Lilium dauricum* and *L. elegans*. *Lilium Thunbergianum* is also included. The pleasing and very useful upright varieties thus named are decidedly showy, with a wide range of color in June and July. They lend themselves admirably for use in the foreground of perennial or shrub borders and even in beds, because they seldom grow more than two feet tall. Dr. Wilson believes the multifarious varieties to be the result of long cultivation in the Orient, particularly Japan; for it should be noted that, like other Lilies—even the queenly *Auratum*—the bulbs have been important articles of food. Stem-rooting, they need a covering of four to six inches, and will grow in full sun.

With the innumerable varieties commercially available in all these upright-growing Lilies, the gardener has a wide choice of color, form, and habit. Then, too, the ease with which the bulbs grow makes them desirable for gardens that receive little care.

The beginner with Lilies can, with the *Dauricum*, *Elegans*, *Thunbergianum*, and *Umbellatum* types, all of the Candlestick habit of bloom, almost assuredly succeed. He may then adventure with the great white trumpets of *Regale* and the smaller blossoms of *Tenuifolium*.



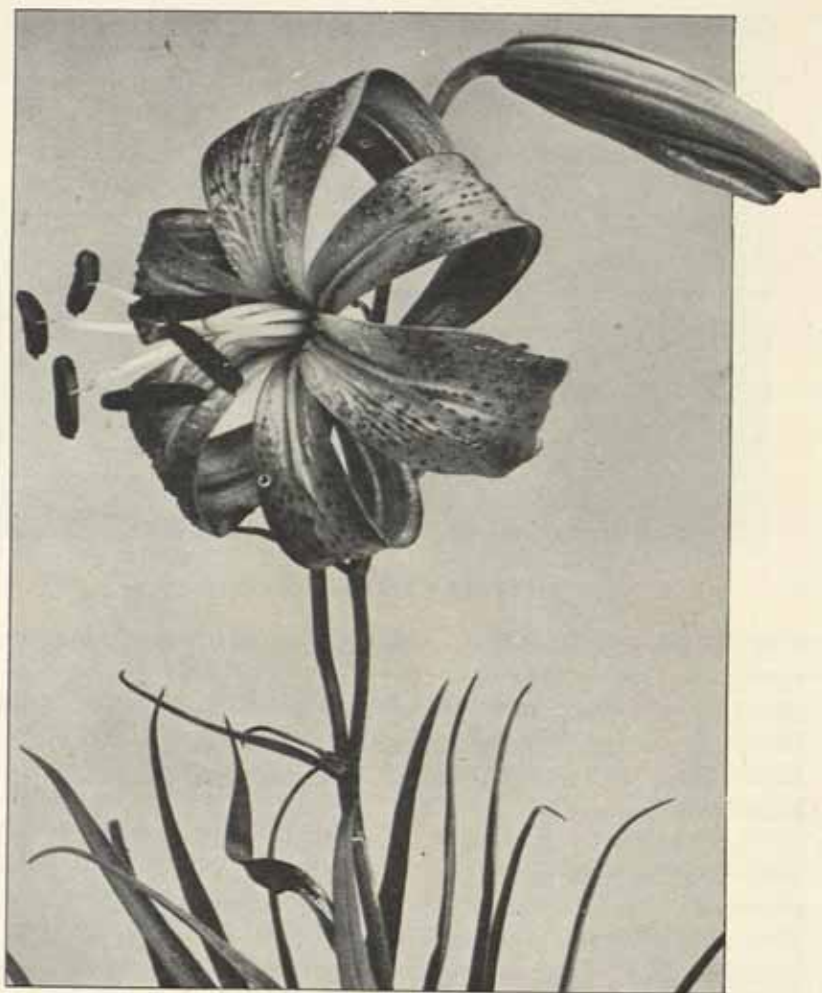
LILIUM WASHINGTONIANUM

From the rich flora of the mountain regions of northern California and Oregon comes this rather difficult but very distinct and impressive Lily, the name of which seems not to be associated with the state, but rather with the compliment paid to the wife of George Washington by the early miners who found it and called it "The Lady Washington Lily."

The bulb looks like a sort of vegetable accident, for it is oblique, with long, narrow scales. It belongs a foot down in the earth, in gravel or on a slope that will assure rapid drainage. The blooms are pure white, but with purple dots and suffusions, and are delicately fragrant. The foliage is abundant, in whorls, and is quite distinct.

There are several varieties of this Washington or Shasta Lily, but the *Purpureum* form is the one most usually in commerce, since it is easier to grow and more dependable.

This is a species for the Lily adventurer, who is willing to work with it. Undoubtedly as our knowledge of ecology (which is nothing more than a study of the home environment of plants) increases, we shall be more successful in growing native Lilies. The sport of bringing to bloom a difficult subject is at least as well worth while as making a low score in golf, and much more commendable than most hunting with a gun!



LILIUM WILLMOTTIÆ

Commemorating a distinguished English gardener and author, Miss Ellen Willmott, this Chinese Lily is best described by Dr. Wilson, thus: "A singularly graceful and attractive lily, it is very distinct from any other." A small bulb sends up a slender stem, not always able to support the mass of three-inch flowers of dark but vivid orange-red, with recurving brown-spotted petals. It blooms with *L. regale*, and needs to be planted eight inches deep.

Other Bulbs





Acidanthera bicolor

OTHER BULBS

FAMILIAR bulbs, corms, and tubers such as *Amaryllis*, *Crocuses*, *Dahlias*, *Gladiolus*, *Hyacinths*, *Irises*, and *Scillas* are included in this section. In addition, attention has been given to many of the more unusual and lesser-known items like *Begonias*, *Brodiaëas*, *Calochorti*, *Ixias*, *Montbretias*, *Nerines*, *Tigridias*, and *Zephyranthes*, as well as a number of others. Many of these plants are little known, either because the tradesmen have overlooked them or failed to call attention to their value in gardens, or because the amateur has failed to respond.

It was hardly possible to give *Dahlias* and *Gladiolus* a thorough treatment in a book of this kind. However, the many available catalogues will provide the gardener with full information regarding the latest novelties and the old favorites.

In this miscellaneous section, by no means unimportant, the various genera have been treated with sufficient detail to guide the interested amateur toward a better knowledge and understanding of many garden treasures that have been neglected. A wider use of the more unusual bulbs will add interest and variety to many gardens, and, it is hoped, stimulate further research.

For convenience this section is arranged alphabetically, according to genus. There is added, on page XXIV, a modest bibliography which may prove helpful to those whose interest is awakened by the rather limited presentation included here.

ACIDANTHERA

A cumbersome name, *Acidantha bicolor* (illustration opposite), designates one of the most delightful of the summer-flowering bulbs. This little-known Abyssinian member of the iris family blooms in August when the rock-garden is dull. Grow it as one would *gladiolus*, and store the corms over winter in the same way.

A mass of six or more of these tubular flowers, suspended on gracefully arching two-foot stems, is most distinctive. The chocolate-brown markings accentuate the creamy petals. With its sweet fragrance, suggesting a tuberose, and its orchid-like form, one might conjecture that it was used for a lovers' garland in Abyssinia.

AGAPANTHUS

The Blue Lily of the Nile (*Agapanthus umbellatus*) is reminiscent of old box-bordered gardens, where it usually flourished in a pot placed at a corner for accent, and bloomed there contentedly. Some of the old plants have been treasured as heirlooms in New England gardens. Curiously enough, it is not native to the Nile country, but rather to South Africa, whence it came some two hundred years ago. Its name, Greek in origin, means love-flower.

Great numbers of blue trumpet-shaped flowers, on strong stems two to two and one-half feet tall, rise from a mass of rich lance-like foliage. Few summer-flowering tubers are more decorative for porches, terraces, or formal gardens. Grow it in a pot or tub, and allow the roots ample space. It needs quantities of water, and responds readily to liquid manure. Keep it over winter in a frostproof cellar, and water it occasionally to prevent the leaves from falling.



Agapanthus umbellatus

*Allium tibeticum*

ALLIUM

Too few garden enthusiasts realize the beauty and the decorative qualities of the Alliums, which include both onions and garlic as food-plants. Usually one thinks of garlic and chives as plants to be used with discretion in salads, wherefore they find a place in the kitchen garden. Yet many species of the genus *Allium* are desirable flowering plants for the rock-garden and the perennial border. No one in America has done more than Louise Beebe Wilder to make gardeners aware of their beauty. From Europe, North Africa, Asia, and America have come many delightful kinds which should not be confused with the troublesome wild garlic or the odoriferous onion.

The varieties in the trade are very hardy and prefer a sunny location with light loam. They transplant easily and multiply rapidly. The Allegheny onion, *Allium cernuum*, with its nodding heads of orchid-pink flowers, is one of our native kinds.

The Lily Leek or Golden Garlic, *A. Moly*, from Spain, was cultivated in England three hundred years ago. The tulip-like foliage and globular tufts of yellow flowers were believed to be symbolic of prosperity if found in one's garden.



Allium odorum

Unfortunately, the Naples onion, *A. neapolitanum*, is not reliably hardy in cold climates. It does not have any objectionable odor and its white flowers are very effective for cutting.

A late July bloomer lasting six weeks is *A. odorum* (illustrated above), with its clusters of white flowers some two feet tall.

Chives, *A. Schœnoprasum*, is a highly decorative plant, especially for the rock-garden or for bordering the herb-garden.

From Thibet, as its name suggests, *A. tibeticum* (illustrated on page 161) is another desirable rock-garden variety which grows fifteen inches high, with pinkish lavender blooms in July.

Onions are not objectionable in polite society when everybody uses them. Why not utilize their beauty in our gardens? Call them *Allium* and forget the kitchen odor of the "vegetable" species!

*Alstræmeria*

ALSTRÆMERIA

Native in the region of the ancient Inca civilization, the colorful Alstræmeria produces clusters of flowers on two- to four-foot stems. A member of the Amaryllis family, this South American genus of some fifty species is little known on our own continent. Peruvian Lilies, as they are known on the West Coast, generally prefer a mixture of sandy loam incorporated with humus, and an abundance of water during the growing season. The great tuberous roots grow rapidly, and provision must be made for them when growing these plants in the greenhouse. Store the bulbs over winter in a frostproof cellar. Several species are obtainable from seedsmen.



Amaryllis (Hippeastrum) hybrids

AMARYLLIS

In the poetry of pagan times, Amaryllis was referred to as a beautiful shepherdess. In the seventeenth century Louis XIII composed a colorful gavotte which he entitled "Amaryllis." These stately flowers, swaying in the wind, remind one of dignified ladies curtsying.

The brilliantly colored clusters of great trumpet-shaped flowers, frequently seen during late winter in home windows and in greenhouses, are ordinarily called Amaryllis, but botanically are Hippeastrums. Of Greek origin, meaning horse and star, the term seems to have no recognized significance. They differ only technically from Amaryllis because of their hollow flower-stems.



Amaryllis (Hippeastrum), Striped Hybrid

For winter flowering, the bulbs are best planted in mid-October, in a six- or seven-inch pot, with good potting soil, preferably including leaf-mold. About two-thirds of the bulb must be left uncovered above the soil. Sometimes the bulbs are started in sphagnum moss and later transplanted to soil when growth has started. A window-sill in a warm, light room will be satisfactory. As the plant develops it requires more water, but not to the point of saturation. (Dry top-soil usually indicates the need for water.) Use liquid



Amaryllis (Hippeastrum)

manure occasionally. During the rest period after flowering, use little water; some growers turn the pot on its side to ripen the bulb.

In recent years many amateurs have been successful in growing *Amaryllis* in window-gardens. The hybrids are, for the most part, unnamed. Hence there are always great surprises in store for those who buy a few bulbs with which to experiment. Then, too, considerable research has been carried on by the many interested members of the American *Amaryllis* Society, not only with *Hippeastrums* but with many of the closely related plants of the great *Amaryllis* family. Among them are *Clivia*, *Crinum*, *Nerine*, *Sprekelia*, and *Zephyranthes* (see index for reference to these). The Society's yearbook is evidence of what genuine horticultural enthusiasm can accomplish.

*Amaryllis belladonna*

Amaryllis may have been only a mythical character, but the grace of the true Amaryllis, or Belladonna Lily, suggests that this exquisite blossom was named to immortalize some rustic sweetheart.

Like so many of our beautiful flowering bulbs, *A. belladonna* came to us from the Cape of Good Hope. For summer bloom the dormant bulbs should be planted in June or July, using seven- or eight-inch pots. Allow the crown of the bulb to protrude, and use a mixture of rich sandy soil. The individual flowers, often three and one-half inches long, are produced in terminal clusters on long stems, varying in color from pure white to rose-red and purple. They are deliciously sweet-scented. After flowering, the plants must be allowed to dry off gradually. Since the foliage of many members of the genus is sparse, Amaryllis are usually arranged for display with foliage plants. The hardy Amaryllis, *Lycoris squamigera*, is treated on page 262.

*Anemone coronaria*

ANEMONE

Windflowers, or Saint Brigid's Anemones, as these gay flowers are called, brighten the florists' windows during the winter months. They are particularly striking when arranged in silver or pewter for table decorations. Unlike the Japanese Anemones of our September gardens, *Anemone coronaria* is not hardy in the East. However, in California and the British Isles this species thrives without protection, and in sheltered locations it is sometimes carried over successfully, if mulched heavily. In a small greenhouse it is worth growing, together with ranunculus (see page 276).

Anemone apennina, from Italy, with its lovely azure-blue flowers, is a hardy species of this family which should be better known.

*Anthericum liliago*

ANTHERICUM

St. Bernard's Lily is *Anthericum liliago*, named for St. Bernard of Mentone, who founded a hospice for travelers in the Alps in the tenth century. It is native to the mountain meadows of the Alps. A plant of unusual delicacy, its slender plumes of white, lily-shaped flowers rise from tufts of grassy foliage. Although it often grows two feet tall, it is very desirable for the rock-garden since it gives the effect of height without mass. Three or more plants grouped in the foreground of the perennial border will provide a delightful drift of white bloom which is always attractive. The *Anthericum* is related to the lily family, and has tuberous roots. It is reliably hardy with a light mulch.

From the very highest reaches of the Alps we have St. Bruno's Lily, named for the founder of the Carthusian monks. It is *Paradisea liliastrum*, formerly known as *Anthericum liliastrum*. The flowers are larger than St. Bernard's Lily and the plant is taller. Both are easily propagated by root stolons, and should be in more gardens.



Begonia crisper (an early hybrid)

BEGONIA

Not often thought of as tuberous, these useful and interesting plants were named in memory of Michel Begon, a French botanist at San Domingo. The genus is invaluable from a decorative standpoint, though not often grown outdoors. It was not until 1864 that the horticultural world gave Begonias any serious attention. Taking a hint from Nature, wise gardeners, who learned that these plants were collected in shady subtropical ravines and moist woods, have found them highly satisfactory for the shady garden, to which they are transplanted in early summer.

Six inches of rich soil, composed of leaf-mold and old stable manure or bonemeal, will provide an ideal growing medium. The stems are of a succulent nature; hence the plants require an abundance of water. Begonias grown in pots or boxes profit by occasional applications of liquid manure through the summer.

The tubers are best started in a greenhouse in pots or in flats (March 15 to early April). If a greenhouse is not available, place the tubers in a flat of moist sand and cover to a depth of one-half inch. Then cover the flat with burlap and set it in a warm place until growth starts. When the shoots have developed an inch or two of growth, transplant the tubers into pots and place them in a warm room or in a coldframe. Avoid sudden temperature changes or too much direct sunlight. The young plants may be set out when all danger of frost is past.

In late autumn, lift the tubers after their foliage has been nipped by frost. Do not remove the soil from the roots until they are thoroughly dry. Then store them over winter in dry peat moss or sand; they should carry over to do service the next summer.

Many varieties are available. *B. gigantea* has large, single flowers. A large narcissus-type trumpet characterizes *B. narcissiflora*. A form with deeply cut petals that are pleasingly waved and frilled is called *B. crispa*. In this class the Duplex type—with four smaller petals arranged within the larger set—has occurred. The



Begonia cristata



Begonia crispa (improved)

*Single Begonia*

crested type known as *Cristata* is very distinctive. *Camelliaeflora* is identical in form with the lovely camellias of the South, but has a wider color-range. *B. fimbriata plena* is the name of a double fringed form which reminds one of a carnation. Even a hollyhock type listed as *B. Martiana*, with small single flowers of mallow pink, is now available. Clusters of small flowers characterize the *Multiflora* type. Several named varieties of this excellent form are in the trade.

Flowers with slightly ruffled petals daintily edged with a contrasting color are

*Begonia Lloydii*

to be found in the varieties of *B. marginata*. Closely set mottled petals distinguish the double flowers of the type *B. marmorata* which is a very showy and unique hybrid for garden use.

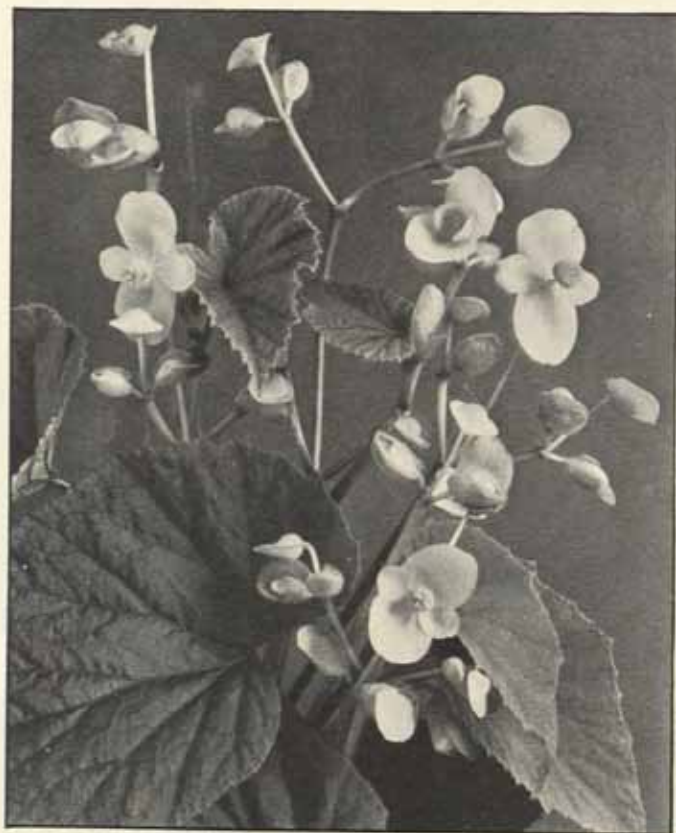
Begonia Lloydii, commonly spoken of as the Hanging-basket Begonia, is popular for use in pots or window-boxes. Its loose drooping habit hardly recommends it for bedding. Prolific in its bloom over a long period, it deserves the wide-spread popularity it has had as a summer pot-plant.



Double Begonia



An attractive planting of Tuberous Begonias



Begonia Evansiana

HARDY BEGONIA

China and Japan have contributed richly to our gardens. Among the nineteenth-century introductions was *Begonia Evansiana*, often spoken of as a Hardy Begonia because it can withstand severe winters if planted in a sheltered location. Typical Begonia leaves, with a reddish undersurface, and loose racemes of soft pink flowers make a pleasing mass two to three feet tall, from late August through September in the shady garden. Moreover, *B. Evansiana* makes an effective ground-cover for small areas in the shade. Since it propagates easily by means of the small bulbils which form in the axils of the leaves, quantities of plants may be obtained easily and quickly. Here is a plant that deserves more attention.



Belamcanda chinensis

BELAMCANDA

More familiarly known as the Blackberry Lily or Leopard Lily, *Belamcanda chinensis*, a summer-blooming member of the iris family, is well worth growing. It came to us from China and Japan.

With foliage much like iris and clusters of bright orange flowers on two-and-one-half-foot stems, the plant is very striking in the summer landscape. Plant the root-stalks in masses of six or more in places where they will have an effective background. Fortunately, the Blackberry Lily is relatively hardy, save in exposed areas.

The first common name mentioned comes from the character of the seeds, which resemble blackberries. The other name, Leopard Lily (sometimes listed as *Pardanthus chinensis*), brings to mind the curious spots which accentuate the flowers.

*Brodiaea laxa*

BRODIAEA

Although native to the western part of our own country, Brodiaeas are little known to eastern gardeners. The Indians of the West Coast call the bulbs "nigger-toes," while the narrow, grass-like foliage is commonplace, the great clusters of lavender-blue flowers of such species as *Brodiaea laxa* are really striking.

Carl Purdy emphasizes the fact that *B. capitata*, *B. lactea*, and *B. laxa* are hardy in Boston. They require perfect drainage, and should be planted in full sun, two and one-half inches deep. It may be necessary to raise the beds to assure good drainage. Plant the corms before the ground freezes, and mulch to a depth of three to four inches. Since summer rains are very injurious to the roots, they should be planted in coarse, gritty soil in full sun.

*Brodiaea Hendersoni*

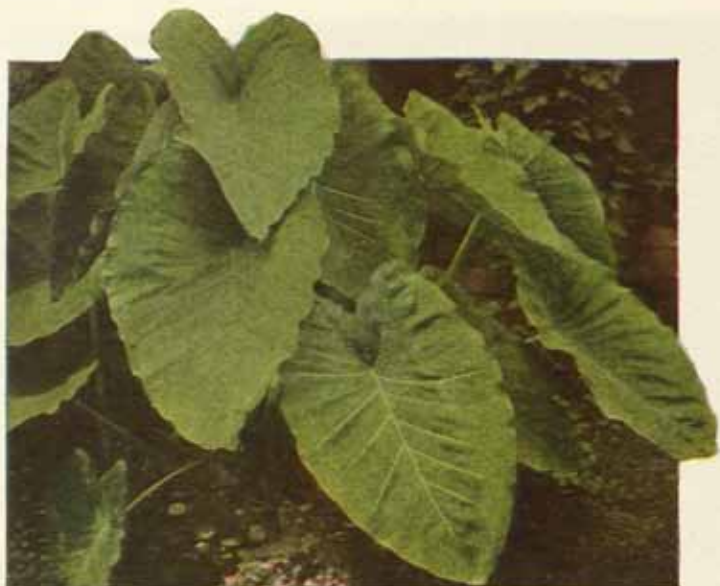
B. laxa is also known as the Triplet Lily, and blooms in May in the East. Dense heads of violet-blue flowers identify *B. capitata* as the California Hyacinth. *B. Hendersoni* has yellow flowers, banded purple.

B. lactea has proved to be satisfactorily hardy in New England where it flowers in mid-June. It is time that we on the Atlantic Coast knew more about California wild-flowers.

Perhaps the most spectacular species is *B. coccinea*, better known as the Floral Firecracker, which grows two feet tall, producing its brilliant bottle-gentian-like flowers of flaming crimson on two-foot stems.

The Spring Star Flower, *B. uniflora* (sometimes listed as *Triteleia*), is a fine plant for a sheltered corner of the rock-garden. Its flowers remind one of flowering tobacco.

*Brodiaea capitata*



Caladium (Colocasia) esculentum

CALADIUM

Caladium esculentum, or more correctly *Colocasia esculentum*, is a plant of high economic value in the Pacific Islands, where it is known as Taro, Eddo, and Dasheen; this big-scale tender bedding plant is familiarly called Elephant's Ear. It is not surprising that the roots are edible, since they are immense rounded tubers of a starchy nature. Hardly a plant for a small garden, this tropical aroid is often used in public parks and show gardens. Plant the roots when all danger of frost is past, and allow at least twelve to sixteen square feet for each plant to develop.

More refined and more colorful are the true Fancy-leaved *Caladiums*. In the South they are very popular summer bedding plants, and the bizarre and sometimes dainty coloring of their exotic-appearing leaves makes them attractive. They are decorative as pot-plants in and about the house. Partial shade and moisture are their chief requirements outdoors. Started indoors in flats of sphagnum moss in a temperature of seventy-five degrees, they need to be potted as soon as sprouts develop. For the best results do not give them too much space for root-development. Frequent



applications of liquid manure will benefit them materially. Combined with ferns and other summer bedding plants, they are very effective.

When the foliage begins to drop in the fall, they should be watered sparingly until the leaves have disappeared. During their dormant stage, they must be stored in a warm, dry place where they will not dry out entirely.

Many species and more than fifty varieties are grown. The Fancy-leaved Caladiums are prime examples of plants with insignificant flowers. Since bees are not attracted to them, few natural hybrids develop. However, many highly colored forms of Caladiums have been produced by growers because of the ease with which they are pollinated by hand. Usually the seedling hybrids do not show color variations until five or six leaves have developed. The coloring in the foliage is rich and varied, and the growth is compact and pleasing.

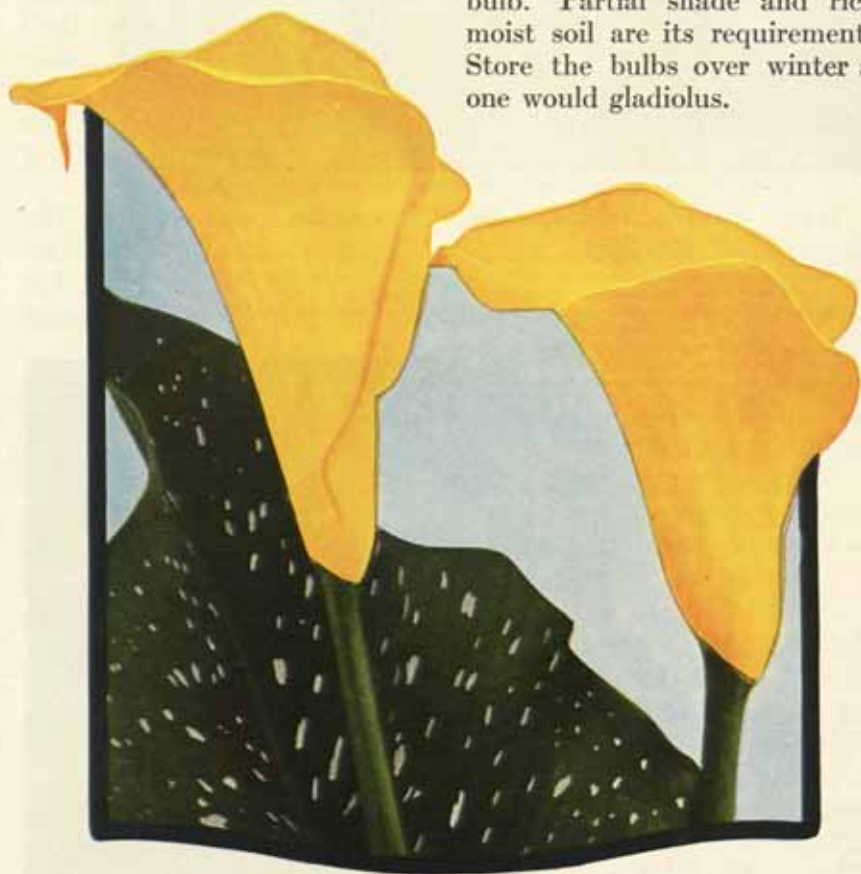
Where tropical effects are desired, these extraordinary plants may be used to advantage in many places.



CALLA LILY

Francesco Zantedeschi, an Italian botanist of the nineteenth century, is responsible for the repellent scientific name of the Calla Lily, *Zantedeschia*, which, fortunately, is seldom used. (The true botanical *Calla* is a very different hardy marsh plant—an arum.) There are those who have always associated this flower with funerals, but it is now much in vogue for weddings.

All the *Calla* varieties in the trade are native to South Africa. *Zantedeschia æthiopica* is the familiar white form. The variety *Z. Elliottiana*, with its spotted leaves and large golden yellow flowers, as illustrated here, is often grown outdoors as a summer-flowering bulb. Partial shade and rich, moist soil are its requirements. Store the bulbs over winter as one would gladiolus.



Zantedeschia Elliottiana

*Calochortus varieties*

CALOCHORTUS

The Mariposa Tulip, so named by the early Spanish settlers of California, where it grows abundantly, took its name appropriately. Mariposa is Spanish for butterfly. Looking at the genus as a whole, one learns that it is divided into three groups. The Globe Tulips or Fairy Lanterns get their names from the shape of the flowers. Masses of short hairs on the interior parts of the Star Tulips caused them to be known also as Cat's-Ears. Perhaps the most familiar group are the true Mariposa Tulips, so named because the markings of the flowers are much like those of a butterfly's wings. These dainty western American natives are found along the Pacific Coast from Washington to Mexico. More than forty species of this pleasing member of the lily family are known to botanists.

In eastern America the *Calochortus* needs a southern exposure

and deep, well-drained, gritty soil to grow successfully. Carl Purdy, the West Coast botanist, recommends raised beds to provide for perfect drainage. Plant the bulbs about twice their depth just before the ground freezes, and mulch them to a depth of several inches. A mulch of straw or leaves is really necessary to guard against the damage caused by alternate thawing and freezing. Since summer rains are destructive to the bulbs, allow them to ripen after blooming; then dig them and dry them before storing for the summer in a dry place.

Why these dainty plants have been burdened with almost unpronounceable specific names is indeed a puzzle. However, since they were attached for scientific rather than humane reasons, they must be reckoned with. The most satisfactory kinds for eastern gardens are *Calochortus luteus citrinus*, *C. venustus oculatus*, *C. Vesta*, *C. nitidus*, and *C. eurycarpus*. *C. Purdyi* (illustrated below) is one of the Cat's-Ears type, with white flowers tinged pinkish lavender.

Truly these flowers are bizarre creations of Nature, with a charm all their own. White, cream, pink, yellow, lavender, rosy purple, and even red shades are to be found in this distinctive group of plants. To be sure, they are not easy to grow, but they do offer the genuine garden-lover a new experience as he enjoys their strange flowers in May and June.



Calochortus Purdyi

CAMASSIA

*Camassia Leichtlini*

sia Leichtlini often grows four feet tall, with star-shaped flowers, one to one and one-half inches across, on long stems in May, and ranging from lavender to aconite blue in color. It is followed two to three weeks later by the white form.

C. Quamash, often listed as *C. esculenta*, is native to the Mississippi valley, and has spikes of royal blue flowers on two-foot stems.

As with many of our bulbous plants, Quamash was formerly used as a food by the Indians.

The name *Camassia* is merely a Latinized form of the old Indian name, Quamash, which is now a species name. Well known in the region from British Columbia to California, these bulbous members of the lily family are admirably adapted to eastern gardens, if care is used. For naturalizing along streams, in moist woods, or in the perennial border they are equally useful.

Plant the bulbs in the late fall, four to five inches deep. It will not be necessary to disturb them for many years except, perhaps, to divide them. Camas-

*Camassia Quamash*



CANNA

Known familiarly as Indian Shot, because of its hard, round seeds, the Canna has been greatly developed as an important summer-flowering plant in America, as well as in France. There are a score or more of Canna species in South America and the tropics,



King Midas



Mrs. Alfred Conard



King Humbert



Wyoming

and one or more in the southern states. The name is merely an old term for a reed-like plant. For bedding in public parks and show places, Cannas are invaluable. The brilliant shades of red, pink, orange, and yellow are particularly striking when grouped in geometrical forms. Then, too, the big-scale foliage in varying shades of green and bronze provides an exotic effect. Like most

tuberous rootstocks originating in the tropics, they are not hardy, and must be stored over winter as one would dahlias. Canna beds should be crowned to a height of four to six inches, and, for best results, the soil needs to be rich, and at least eighteen inches deep. Allow eighteen to twenty-four inches between plants. The roots are better started early, as Cannas thrive best in the midsummer heat. Give them quantities of water during dry periods.

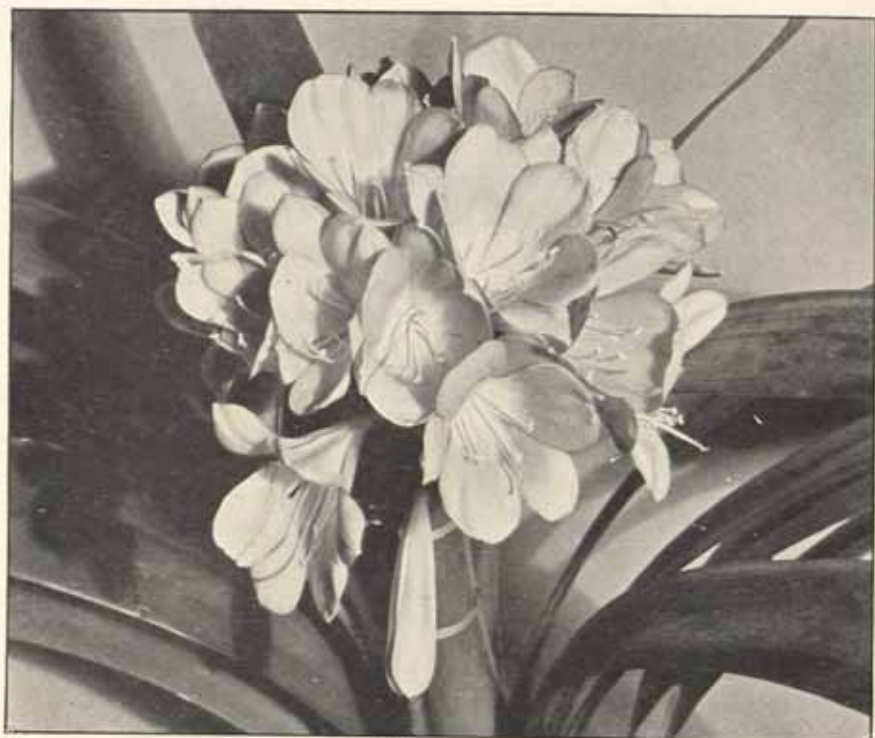


Mrs. Pierre S. du Pont

*Chionodoxa Luciliae*

CHIONODOXA

Few plants have been more appropriately named than Chionodoxa, which is Greek for Glory-of-the-Snow (see p. 260). Introduced to American gardens less than a hundred years ago, these dainty star-shaped flowers are native to the mountains of Crete. With the first warm days of spring they blossom forth in all their blue brilliance. (Pink and white forms of the species *Luciliae* are available also.) Like most spring-flowering bulbs, they need to be planted in autumn, setting the bulbs three inches deep. Group them in the rock-garden or near spring-flowering shrubs, or plant them in great masses for carpet effects. Spring garden pictures of rare and unusual beauty can be created when early bulbs are planted in large drifts or masses. In congenial surroundings they multiply from year to year and will be benefited by a top-dressing of manure in late fall.

*Clivia miniata*

CLIVIA

Because a specimen of this striking Amaryllid first bloomed in the conservatory of Lady Clive, Duchess of Northumberland, this genus was named *Clivia*. The species name, *Miniata*, had its origin in the Latin, signifying red oxides of lead. Since this charming favorite window-flower has come to us from South Africa, it is best handled as a pot-plant, for late winter decoration. More than sixty hybrids are known, varying in color from cream to orange. Fibrous loam, lightened with sand, charcoal, and leaf-mold, makes an ideal potting mixture. Always provide perfect drainage, but avoid too much water—excess moisture causes a growth of foliage rather than flowers. The bulbs need to rest in late summer, but should not be allowed to dry out completely. Apply fertilizer during the summer months when the pot is full of roots. Best results are obtained by keeping plants in relatively small pots. (See *Amaryllis*, p. 164.)



Colchicum autumnale

COLCHICUM

Like so many fairy chalices or slender-stemmed goblets, the Colchicums make the autumn garden gay with shades of violet and rosy purple and tints of mauve and white. Also known as Meadow Saffron, this fall-blooming corm is often incorrectly called Autumn Crocus (see p. 196), though it differs in structure from the crocus and belongs to the lily family, whereas the crocus is an Irid.

The foliage, which eventually turns yellow and disappears, is produced in the spring. Bulbs purchased in August will produce flowers a few weeks after planting. Since they bloom without foliage, they are effective when set in carpets of thyme, veronica, or arabis. Give them a sunny location and set them two inches deep.



Convallaria majalis

CONVALLARIA

The Lily-of-the-Valley has a rich traditional heritage in gardens. Many of the existing illuminated manuscripts of the Middle Ages depict garden scenes, close scrutiny of which often discloses a fine sense of detail. Among the flowers that have been identified and located is the dainty Lily-of-the-Valley.

The sweet fragrance and delicate form of this garden treasure charmed the Elizabethans, and that charm has continued. In our country "Valley Lilies," as the florists call them, have never lost their popularity for use in wedding bouquets or in old-time garlands.

As a ground-cover in shady places, and even under trees, the Lily-of-the-Valley does well. Enduring neglect, it yet thrives best in rich soil, and ought to be divided when the roots become overcrowded. An occasional feeding with fertilizer will help considerably.

Lilies-of-the-Valley are easily grown indoors in bowls for winter decoration. For best results secure pips that have been held in cold storage. Plant them in loam, sand, or sphagnum moss and keep them in a dark place for about two weeks. As the pips sprout, give them more light. In the average home, they will flower four weeks from planting. The roots, known in the trade as pips, were formerly sold in apothecary shops for heart ailments.



Cooperia Drummondii

COOPERIA

Hardly sturdy enough in appearance to be associated with the prairie lands of the Southwest, this delicate, white-flowering bulb is known to the rangers as Rain Lily or Prairie Lily. This diminutive Amaryllid gets its generic name from Joseph Cooper, an English gardener. Hot sun is hardly pleasing to the small white blossoms which come forth in the early evening, emitting a dainty fragrance. When the flowers pass, the seed-pods are curious and interesting. Seldom more than a foot high, the plants are sparse of foliage, and are better placed in groups with other plants. In the rock-garden, they are delightful, but must be taken up over winter.



Crinum longifolium

CRINUM

The Greek equivalent of Crinum is lily. Few plants are more striking than this stately Amaryllid, of which there are more than a hundred species, native to Asia, Africa, Australia, and South America. In southern gardens several kinds are grown in dooryards and are commonly spoken of as "Milk or Wine Lilies." The only species native to our country is *Crinum americanum*, a chaste white star-like flower with delicate fragrance, which grows in marshy and swampy places along the roadsides of Florida.

If one attempts to grow Crinums for summer flowering, he should plant them in pots sunk in the ground in partial shade. These plants are gross feeders and require quantities of water.



Crocus varieties in the rock-garden

CROCUS

Everybody knows and loves the cheery Crocuses which brave the winds and frosts of declining winter. No other early flower does more to herald the coming of spring. From the mountain regions of Europe and Asia these members of the iris family have been gathered to brighten our gardens. The name is the Greek equivalent for the Saffron Crocus, and its history is tied up with the Sanskrit and Indian languages.

Botanically the root is a corm like the gladiolus, rather than a true bulb. Deeply dug light soil in full sun and a well-drained location are the easy requirements for growing Crocuses. In the rock-garden, the perennial border, or the shrub planting they are equally happy. Sometimes they are planted in sod or associated with plants such as phlox, veronica, and arabis. A "fairy ring" of



Enchantress, an excellent large-flowering Crocus

Crocuses planted around a tree will provide a spring delight for children year after year.

Plant the corms four inches deep, and do not mow or cut the foliage in the spring until it has ripened completely. It is unnecessary to dig and store the bulbs through summer, save when the clumps become overcrowded and need dividing.

Few people think of Crocuses as being fragrant, but E. A. Bowles, the great English authority on the genus, has written of the scent suggestive of spring as "consisting of a great deal of primrose with

a slight touch of honey." The color-range of the flowers varies from purest white through orange-yellow, yellow, lavender, blue, and purple. More than twenty-five species and varieties of spring-flowering Crocuses are offered by seedsmen. Lovers of unusual plants should read E. A. Bowles' "Handbook of Crocus and Colchicum" and then enjoy the fascinating descriptions which John Parkinson wrote in his delightful seventeenth-century garden book. There are agreeable surprises in store for the ambitious gardener who is willing to experiment with Crocuses.



Crocuses grown in "drifts"

*Crocus zonatus*

Autumn-flowering Crocuses are all too little known in American gardens, and yet the Saffron Crocus, *C. sativus*, has been grown and cherished as a useful drug and dye for more than two thousand years. In ancient times it was sold by the Phœnician merchants throughout the then-known world.

The Saffron Crocus varies in color from white to lilac and has noticeable orange stigmas from which the drug is obtained. Its name should not be confused with False Saffron, *Carthamus tinctorius*, which is used in cooking, nor with *Colchicum autumnale* (p. 189).

Perhaps somewhat better known are *C. speciosus* and *C. zonatus*. *Speciosus*, from Eurasia, produces large lilac- or purple-tinged flowers with two-inch petals. Warm lilac flowers, marked with purple and further distinguished by an orange zone in the throat, are associated with the name *Zonatus*.

Because they flower after the foliage has disappeared, Autumn Crocuses are used to best advantage with hosta and other foliage plants, either in the shrub border or the perennial garden. While they provide gay bits of color in the autumn rock-garden, the foliage, which is produced in spring, turns a somewhat disagreeable yellow and fades slowly.

CYCLAMEN

There is hardly a florist shop that does not have a display of Cyclamen blooming in pots during the Christmas season. The distinctive blossoms, which range in color from white to rose, are accentuated by heart-shaped leaves with pleasing silvery markings, and these make masses of gay color in window-gardens.

All too often they are not happy as house-plants because of too much heat. A temperature of sixty degrees is ideal for them.



Cyclamen persicum

*Cyclamen europæum*

Careful watering is also important to these plants. They need neither too much nor too little, and the home gardener will soon learn how to make them comfortable. Native in the regions from Greece to Syria, they enjoy a sunny location.

A coppice plant from Switzerland, the hardy *Cyclamen*, *C. europæum*, is one of our rarest garden treasures and was known in Shakespeare's time as "Sowbread." Reginald Farrer, English authority on alpine plants, suggests more appropriately "Food of the Gods."

Partial shade, sandy leaf-mold to which lime has been added, and a fair amount of moisture, are its requirements. It may be planted under trees; avoid exposed parts of the rock-garden and set the tubers two inches deep.

Blossoms suggesting butterflies appear above the heart-shaped leaves in autumn. Farrer has described this delightful alpine plant as "filling the long limestone screes of Baldo or the Tombea with a crowd of dancing ruby flames."

The Federal quarantine regulations have undoubtedly prevented most gardeners from getting to know the hardy *Cyclamen*. Experimenting with them will provide real adventure, but patience must be an enduring trait of the gardener concerned.



Jane Cowl (Informal Decorative)

DAHLIAS

The introduction of many of our garden plants is closely tied up with human progress. In fact, we are greatly indebted to the explorers of the sixteenth and seventeenth centuries for a large number of the flowers which now bloom in our dooryards. Undoubtedly stimulated by fantastic tales, Philip II of Spain sent his physician to Mexico in 1570 to investigate its natural history. Nearly fifty



Market Queen (Decorative hybrid)

years later this physician, Francisco Hernandez, published four books about his expedition. Three types of Dahlias were illustrated in this treatise, classified by their Aztec names—Acocotli, Cocoxochitl, and Acocoxochitl. Cocotli, translated literally, refers to the hollow stems; with the prefix “a” it means water-pipe.

It was not until the year 1789 that Dahlias were grown on the continent. At that time seed was sent to the Royal Gardens at Madrid. The Marchioness of Bute, wife of the English ambassador to Spain, obtained some of these seeds, and germinated them in an English greenhouse. They were known for a time by the name Georgina, after Professor Georgi, of St. Petersburg, but the director of the Madrid garden named this new plant “Dahlia,” for a Swedish botanist, Andrew Dahl.

Nearly a century ago European gardeners became so excited about Dahlias that one grower proudly boasted of three thousand



Dwarf Bedding Dahlias



Elizabeth Potter (Formal Decorative)

varieties. Although double forms were known to the Aztecs, it was not until 1814 that a double form was developed at Louvain. Cactus Dahlias were first shown in London in 1879. The Pompon dates back to 1808, and is of German origin. Single forms were not permitted at the shows in the early nineteenth century, and it was not until 1880 that they were given due recognition. The dwarf Tom Thumb type and other small forms are now very popular.

In 1915 a group of Dahlia enthusiasts organized the American



Countess of Claverly (Semi-Cactus hybrid)



Unwin Dahlias

Dahlia Society. Since that time many smaller groups have worked together in local organizations for the improvement of this spectacular flower.

In attempting to comment on the various kinds of Dahlias, it might be well to list the principal types:

Single Dahlias are easily identified because of their single row of petals, accentuated by yellow centers. The *Mignon* type produces single flowers on plants that seldom grow more than eighteen inches



Jersey's Beauty (Formal Decorative)

tall. Very similar are the so-called *Collarettes*, which are single, but, as the name suggests, are marked by a row of smaller petals which form a collar between the center and the ray petals. *Anemone-flowered* Dahlias are distinguished by curious tubular florets in the center of the flowers, which add a rather exotic touch. The semi-double forms are known as *Duplex* Dahlias and tend to be confused with the true double varieties.

The *Peony-flowered* Dahlias have several rows of petals and somewhat resemble peonies, with a row of twisted and curled petals around open centers. Among them are flowers of singular elegance and beauty.

Decorative Dahlias have double flowers, symmetrical in outline, but in form they are more flat than rounded. The older exceedingly formal and often quilled flowers are in this class. *Informal Decoratives* are irregular in outline, as might be inferred from the illogical class name.



Mignon Dahlias

What are known as *Ball-shaped Double Dahlias* are more globular than flat in form, with more or less quilled petals. The florets show a regular spiral arrangement. Closely related are the *Hybrid Show* or *Colossal* type, with florets more loosely arranged, resembling the *Decorative Dahlia*. A true *Pompon* never measures more than two inches across.

Cactus Dahlias have definitely fluted petals that look not unlike a cluster of tiny glass tubes. The hybrid forms are less bizarre in outline but do suggest the curious fluted character of the type.

Rapidly increasing in popularity are the *Miniature Dahlias*, with flowers not exceeding four inches in diameter. (Pompons are not included in this group.)

Dahlia-growing has long been a hobby of many amateur gardeners. Their aims for the most part have been directed toward the development of size, form, and color. As a result, blooms of



Warren Church (Cactus)



Mrs. I. de Ver Warner (Formal Decorative)

tremendous size have been developed, valued largely for exhibition purposes; flowers nearly twelve inches across are seen in the shows. Many of the so-called Decorative kinds are effective as cut-flowers for big-scale formal effects.

More than two thousand varieties of Dahlias are available in the trade in America and Europe. Since new varieties are introduced each season, it is not in point to comment on them or list them. Progressive plantsmen publish novelty lists from time to time. Perhaps the most popular large-flowered Dahlia in America is Jane Cowl (p. 199), sometimes grown to gigantic size. In the most recent catalogues Pompons, together with Miniatures and Dwarf Singles or Mignons, are being featured.

The starchy tubers of the Dahlia, resembling sweet potatoes, multiply rapidly. When new kinds are offered in the trade it is not always possible to obtain enough roots, and growers sell what are known as "green plants." These are cuttings, rooted from stock

*Pompon Dahlias*

plants. Dahlias are also readily raised from seed; plants will bloom the first year from seed sown in March.

Several kinds of single and semi-double bedding types are now available. They make effective masses in the summer garden, and require comparatively little care.

In planting, set the crowns of the tubers four to six inches below the surface. If the largest flowers are desired, allow only one or two shoots to develop. When the buds form, it is essential to disbud to one on each stem to produce exhibition flowers. Since the stems are hollow and the plants often grow seven to eight feet tall, the plants should be staked. Avoid planting Dahlias in too rich soil,



Miniature Dahlias—Little Jewel, Baby Royal, Bishop of Landaff

because they will then produce more foliage than flowers. In fact, they can be grown in soil including a large percentage of coal ashes, provided fertilizer is used. Full sun and a fair amount of moisture are desirable.

The tubers should be dug after the foliage has been destroyed by severe frost and allowed to dry thoroughly in the open before storing for the winter. All too often, inexperienced gardeners plant the entire clump of tubers instead of dividing them. A single tuber with a strong eye will produce a blooming plant the first year. Give the plants ample room to develop (at least three feet) and grow them in rows to allow for convenient staking. The bedding varieties make effective masses. They are hardly suitable for shrub plantings or for the perennial border.

*Eranthis hyemalis*

ERANTHIS

The first word in the inconsequential name *Eranthis hyemalis* means flower of spring in Greek, and the species name means winter. A winter flower of spring it truly is, for it sometimes blossoms in late December or early January during a mild spell. Commonly called Winter Aconites, these bright buttercups from the high places in Europe remind us each year of the masses of gold which summer will bring forth. Plant *Eranthis* in a partly shaded location, preferably in what the gardener calls "drifts," for the best effect. Combine them with snowdrops, scillas, and *chionodoxa* to obtain a pleasing succession of early spring color. Gardeners often fail to grow Winter Aconites successfully simply because they do not order the tubers early enough. Always plant them as soon as they are received from the grower.

EREMURUS

True aristocrats of the garden are the Eremuri or Foxtail Lilies. Coming, as they do, from the desert regions of Turkestan, these Desert Candles are always objects of curiosity in American gardens. They are collected far from habitations, and are transported by caravan across the desert to seaport towns, from which they are shipped to Holland. In the great Dutch nurseries they are grown and acclimatized before they are shipped to America. Consequently, it is easy to understand why Eremuri are costly. Plant Quarantine 37 made it necessary to propagate the *Eremurus* in this country, but it takes several years to produce a marketable root.

The plant has large, fleshy roots which extend from a crown surrounded by fiber. (Great care must be taken not to injure these roots when planting.) Set them six inches deep, in rich, porous loam. They require a sunny location, both moist and very well drained. For best results plant them in late fall. A mulch of straw over winter, held in place by a peach-basket, will give ample pro-

tection. Since great damage may be done to the plants by early spring rains and frosts, the baskets should be kept in readiness to use as a covering during severe rains or cold spells.

The flower-spikes, often six to eight feet tall, rise like great asparagus tips in early May from a mass of yucca-like foliage. They produce flowers for a period of two weeks or more in late May and early June.

The roots multiply rapidly, and a clump of these Desert Candles makes an imposing mass in the shrub border or the perennial garden. Colors ranging from white through yellow to pink and salmon are found among the newer hybrids.

Provided one has considerable patience, *Eremurus* can be grown from seed. They should be planted immediately after ripening. In five years flowering plants should be ready. Such experiments offer a real challenge to amateur gardeners.



Eremurus

*Erythroniums*

ERYTHRONIUM

To know this family well, one must travel to the West Coast where Erythroniums flourish in the mountain valleys of Oregon, Washington, and California. In eastern United States the common Adders-Tongue, *E. americanum*, grows so rampantly that it is not appreciated. The genus name signifies red flower, but they are more familiarly known as Dogs-tooth Violets, Adders-Tongues, or Trout-Lilies.

They are a reliably hardy family, although the bulbs resent transplanting. Like miniature stars with the points drawn back, these unique blossoms are further accentuated by strikingly mottled foliage. The flowers often measure three to five inches across.

Plant Erythroniums in a partially shaded location where the soil is well drained. They prefer loose, gritty-textured loam and thrive when set close together, two to three inches deep. A most effective planting can be developed by naturalizing them. They must not be kept out of the soil any longer than is necessary, since they tend to dry out. Do not expect too much in the way of flowers the first year. (Plants, like people, do not always adjust themselves too rapidly to new environments.) In California, Erythroniums bloom from February to mid-April; in the East they flower in April and early May.

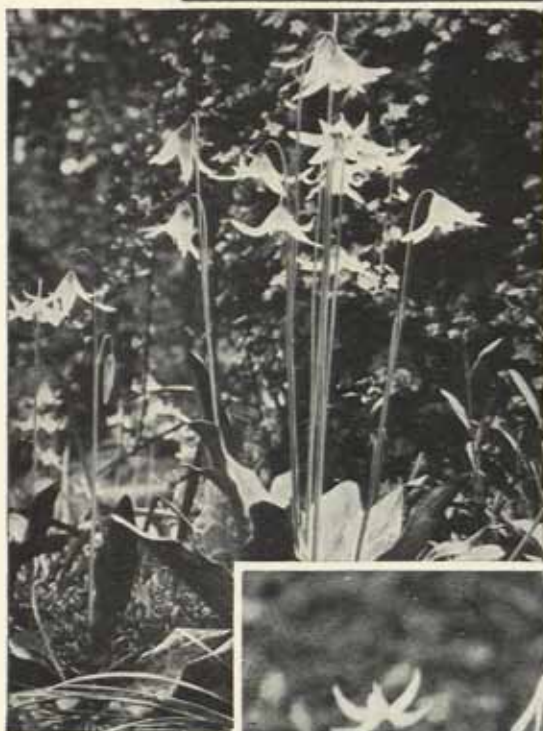
More than a dozen species and varieties, ranging from white to yellow, purple and pink, are available from seedsmen. *E. californicum* has cream-colored flowers. The yellow variety, *E. Hartwegi*, is a satisfactory kind for cool greenhouses. Light purple flowers with deep maroon centers describes *E. Hendersoni*.

As the photograph on the following page suggests, *E. giganteum* is a striking white kind. The so-called Glacier Lilies, *E. parviflorum* and *E. grandiflorum*, have brilliant yellow flowers.

Carl Purdy, of Ukiah, California, who has made us aware of the beauty of these unusual plants, classifies one group of Erythroniums under the heading of *E. revolutum*. They prefer heavy soils that are wet in winter. Larger flowers and taller stems are characteristic of this group which includes pink, pale lavender, and white.



Erythronium parviflorum



Erythronium giganteum

Erythronium Hendersoni



*Eucharis grandiflora*

EUCCHARIS

In describing the tender Amazon Lily one would surely first mention its graceful flower-spikes. Unquestionably, the name *Eucharis*, which means very graceful in Greek, fits admirably this South American bulbous plant. The clusters of creamy white, narcissus-like flowers are more delicately poised on their long stems than are the amaryllis, to which they are related. Since its tropical habitat cannot even be approximated in our gardens, save in the far South, it must be grown indoors. It is often seen in conservatories, where it flowers easily. Sometimes it is grown as a pot-plant.

Well-decomposed stable manure, mixed with coarse, fibrous soil, will produce vigorous plants. Although the plants require quantities of water during the growing season, they must have good drainage, and the foliage must not be allowed to dry out during the dormant season. In some conservatories they are kept in active growth, blooming freely throughout the year.

*Freesia hybrids*

FREESIA

Since the fragrant Freesias are not hardy outdoors in our climate, they are grown most satisfactorily in pots. Although the white Freesias have been in cultivation nearly a hundred years, it was not until 1898 that a British surveyor named Armstrong found a colored form at Hermansdorp, South Africa. In the last decade a number of hybrids have been introduced from Europe.

A soil mixture of sandy loam and coarse sand, containing a little bonemeal, is desirable. Plant the corms close together and water them well. They may be placed in a sunny window immediately to encourage root- and top-growth. Bamboo stakes and string will help to keep the foliage and stems from flopping. Apply liquid manure when the buds appear. After flowering, the corms should be thoroughly dried off before they are stored. It usually takes three and one-half to four months from planting to develop the flowers, which range in color from white to yellow, orange, and blue with some rose shades.

Freesias are delightfully fragrant, and few flowers are more decorative for artistic arrangements than these clusters of trumpet-shaped blooms perched on wiry stems often two feet tall.

*Fritillaria meleagris*

FRITILLARIA

Perhaps the best known of all the Fritillarias is the showy Crown Imperial, a species introduced to English gardens from Persia in Elizabethan times. The variety *Fritillaria meleagris*, also known as the Guinea-Hen Flower and the Checkered Lily, may have suggested the generic name to the botanists, because of its unusual checkered petals. (*Fritillaria* in Latin means dicebox.)

These curious members of the lily family are most unusual. They are also temperamental in their requirements. The Crown Imperial demands rich soil, and the bulbs should be set six inches deep. They resent the encroachment of other plant-roots and show their disapproval by sending up weak growth with few flowers.

The Guinea-Hen Flower is less showy but much easier to grow, and will find itself at home in a rock-garden where the loam is light and moist. Fascinated by the unique markings on the petals, the Dutch growers have developed several distinct varieties.

Little known in the East are the California species, *F. recurva*, *F. lanceolata*, and *F. pudica*, called respectively the Red Bell, the Mission Bell, and the Yellow Bell. Semi-arid conditions with perfect drainage are not always easy to provide, nor are the dry summers of the West usual in the East. The American Fritillarias are plants for ambitious gardeners who have patience, and time in which to experiment.

*Fritillaria imperialis*



*Fritillaria
recurva,*
the Red Bell

(BELOW)
Fritillaria lanceolata,
the Mission Bell



(BELOW) *Fritillaria pudica,*
the Yellow Bell



*Galanthus nivalis*

GALANTHUS

Snowdrops deserve a place in every garden. Like the crocuses, the scillas, and the winter aconites, they anticipate spring. Some old botanist named this dainty plant's flowers *Galanthus*, which means milk flower in the Greek. The small, white blossoms, suspended from delicate stems, remind one of a series of bells that were cracked by the frosty winter winds of February and early March.

Planted in groups like Snowflakes (*Leucojum*, see p. 259), Snowdrops will soon make intimate colonies. Along a shady walk or underneath shrubbery and trees they will adapt themselves readily. Rich loam, including some leaf-mold, will suit them well. Early September is the ideal planting-time; set them three inches deep.



Galtonia candicans

GALTONIA

Summer Hyacinths will bring a welcome mass of white bell-shaped flowers to the perennial border in late July and August when the phlox begins to riot. Often listed as *Hyacinthus candicans*, this summer-flowering bulb, which came to us from South Africa, is best planted as one would gladiolus. It was named for Sir Francis Galton, British scientist. The tall spikes of bell-shaped flowers often grow four feet high.

Two or three bulbs planted in a group will make a pleasing accent in the foreground of the shrub border. They thrive best in full sun. Galtonias are easily raised from seed. It takes two years to produce flowering-size bulbs, which are stored over winter like gladiolus.



Gladiolus, Sweet and Lovely

*Maid of Orleans*

GLADIOLUS

While it is not necessary to delve into the ramifications of scientific nomenclature here, it might not be amiss to clarify the pronunciation of this much-discussed name. In the singular the word is pronounced Glad-i-6-lus, as accepted by the American Gladiolus Society, and the plural is the same. Therefore, all tongue-twisting of this name should be at an end. Incidentally, *Gladiólus* is derived from the Latin word *gladius*, meaning sword, and it was formerly known as the Sword Lily.

In the second century the Greek doctor Dioscorides described several varieties of "Corn lilies" which we have since learned were species of *Gladiólus*. Alfred M. S. Pridham, of Cornell University, reminds us that these familiar garden flowers were used, together with fragrant herbs, for strewing paths in the time of Queen Elizabeth.

Our modern *Gladiólus* are hybrids of species introduced from the Cape of Good Hope in the eighteenth century. Nearly a century later the first outstanding hybrid was developed. The plant was introduced to the horticultural world by Louis Van

Houtte, a famous French horticulturist.

The fragrant species, *Gladiolus tristis*, was introduced to Europe in 1739 but, unfortunately, fragrance has had little or no consideration in hybridizing.

When Queen Victoria visited Paris in 1856, quantities of *Gladiolus* were used to decorate the pavilions on the streets as well as the gardens at Fontainebleau. Undoubtedly this great display of *Gladiolus* did more to popularize the flower than any attempt on the part of the growers.

Little interest in *Gladiolus* was manifested in America until fifty years ago. To be sure, a few horticulturalists had grown them as early as 1861, but with the turn of the century popular interest in the *Gladiolus* was aroused. The famous Groff hybrids, shown at the Pan-American Exposition of 1901, excited the garden-loving public of that day. In the last thirty years *Gladiolus*-growing has become an important phase of American horticulture.

A well-known grower, fascinated by the legends that have grown up around the *Gladiolus*, has written a poem which he permits us to reprint here.



Mrs. Francis King

THE LEGEND OF THE GLADIOLUS

By E. E. BROWN

*Long years ago, traditions say,
Two brothers, hot with rage,
Were fighting for some land that lay
Within their heritage.*

*With grievous wounds both fell at last,
But ere their breath was gone,
One cried: "Why not forget the past,
Since brothers we were born?"*

*A brother should be friend, not foe;
And where our blood is spilt,
Into this ground my sword I'll throw,
Down to its very hilt."*



The Orchid



Rose



Schwaben



Halley

*"And I will bury my sword, too,"
The other brother said,
"Why not to our best selves be true
Before we both are dead?"*

*With buried swords the quarrels cease,
And as the two divide
The land, they find at last where peace
And happiness abide.*

*And where the brothers fought that day,
And where their swords reposed,
Gladiolus sprang up, they say,
In swordlike sheaths enclosed.*



Herada



Anna Eberius



America



E. J. Shaylor

More than a hundred and fifty species of *Gladiolus* are known, but few of them are of garden interest, except as they have been used in hybridizing to produce the many varieties commercially grown today, nearly three thousand in number.

In 1910 the *Gladiolus* had gained sufficient foothold in American horticulture to bring about the organization of the American *Gladiolus* Society. Collectors of this flower speak of three classes: the exhibition type, the large decorative, and the small decorative kinds. Then, too, the petal markings of the many kinds vary. Colors ranging from the deepest purple to the softest pink are to be found in the varieties available.

Of recent years, the *Primulinus* types have become increasingly popular. They are sometimes spoken of as *Waterfall Gladiolus* because they were first collected fifty years ago near Victoria Falls in the tropical forests of Africa. Their delicate flowers, predominantly in pastel shades, are gracefully poised on long, slender stems.

Although *Gladiolus* are often seen in July gardens, August is preëminently their month. They are among our most popular summer flowers today, largely because of their rich and varied colors, their distinction when used as cut-flowers, and the ease with which they may be grown almost anywhere. The bulbs, or corms, are comparatively



War

*Ruth Huntington**Flaming Sword**Picardy*

inexpensive, and as cut-flowers they ship well. For cutting purposes they are best grown in rows. If planted at intervals of two weeks from mid-April to late June, *Gladiolus* may be enjoyed from early July until frost. In the garden they are very pleasing when massed in groups in the shrub border or among the perennials. It is one of their merits that if they are planted deep they will seldom need staking, though the large-flowered varieties may require support.

From a decorative standpoint, *Gladiolus* are invaluable. Not only do they last well when cut but they combine effectively with many garden flowers. For the best results they must be cut when the lower flowers open. The spikes will then blossom out completely in water. Each day the lower part of the stems should be removed and the water changed. Arrange them in simple pottery containers or baskets. Foliage and flowers that are loose in form and neutral in color may be combined with them.

*E. I. Farrington**Richard Diener**Persia*

The *Gladiolus* stem arises from what is called a corm. This is usually planted three to six inches deep, according to its size and the texture of the soil. Rich, well-drained loam, occasional applications of fertilizer, and generous amounts of water will produce results that will abundantly repay the gardener. During dry periods, cultivation will help materially. While *Gladiolus* will grow and bloom with little care, quality flowers are not produced in dry weed-patches.

The bulbs or corms should be dug in the late fall after a killing frost. It is best to cut the tops close to the ground before digging. Since *Gladiolus* are most easily propagated by the little cormels which are attached to the corms, care is desirable in handling them, if one wishes to propagate a given variety. After the lifted bulbs

*Betty Nuthall**Heavenly Blue**King George*

have been dried and the soil has been shaken off, separate the newly developed corms from the remains of the old ones, which may then be discarded. Store the newly formed corms in a frostproof cellar. If the small offshoots or cormels are allowed to dry out thoroughly, they will be slow to germinate the following spring. It is best to store them in open containers filled with barely moist sand, kept in a cool place, and to examine them periodically for evidences of mold. In the succeeding season plant the cormels as one would potatoes, placing them so that they almost touch one another; cultivate them frequently. Usually flowering bulbs will be the product of one season's growth.

Hardly a year passes that some new pest does not appear, giving the flower gardener additional worries, and a challenge as well.



Ethelyn (Primulina)



Gladiolus and annual phlox make a pleasing combination



Gladiolus planted close together lend new life to the
midsummer garden

Sunnymede (Primulinus)



In recent years *Gladiolus* growers have found thrips a problem, for they feed on the foliage, flowers, and corms, doing great damage. It has been found that they are harbored over winter in the corm. The simplest all-round treatment is an application of naphthalene flakes. A dose of one ounce to each one hundred corms is scattered among them at the beginning of storage, to remain only four weeks, after which the smelly disinfectant may be removed. This method has been found very satisfactory in controlling thrips.



Princeps



Peace

While many of the species *Gladiolus* are not as spectacular as are the modern hybrids, nevertheless, as with the species roses, a goodly number of them are unique in color and form. As a more highly discriminating taste is developed by American garden-lovers, many overlooked and undeveloped plants such as the *Gladiolus* species will achieve the recognition that has long been due them.



Gate of Heaven



Pelegrina



Peach Blossom

In a distinct class is Peach Blossom, one of the so-called Baby Glads sometimes grown in greenhouses during winter months. The parent of the variety, *Gladiolus Colvillei*, was one of the first important hybrids produced in 1823 at Colville's Nursery, Chelsea, England. Known to be hardy with protection south of Washington, it is seldom found in eastern gardens.

For cut-flower growth under glass, the corms are usually started in November, producing flowers in April and May.

For many years efforts have been made to raise *Gladiolus* for the Christmas trade. So far, the attempts have met with little success, because the growers have been unable to shorten the important "rest period" which the corms require.



Gloriosa Rothschildiana

GLORIOSA

The Glory-Lily, *Gloriosa Rothschildiana*, of tropical Africa, is a climbing member of the great lily family. Although a curiosity here in the North, it is a familiar plant in southern gardens. Tendril-like growths on the ends of the leaves provide support for the stems of this unique plant.

In the North it is best grown in a warm greenhouse. Tubers started in January will bloom in the late summer and autumn. *Gloriosa* has been grown outdoors in the North as a bedding plant, but it is most successful in the Lower South. The petals of the best variety, *Rothschildiana*, are yellowish white near the base and crimson at the tip; there is a desirable variety, *Citrina*, with citron-yellow and violet-purple blooms.

*Gloxinia hybrid*

GLOXINIA

What we commonly call Gloxinias are Sinningias, plants from the tropical rain-forests of Brazil; but the name Gloxinia will probably ever be familiar to us. (These colorful house-plants have tuberous rhizomes, whereas the true Gloxinia does not.)

Few plants are more particular in their water requirements. While they need an abundance of moisture during their active growing season, care must be taken not to wet the leaves. Set the plants where they will be protected from draughts, and too much sunlight. The tubers are usually potted in February, using leaf-mold, peat, sand, and loam. To extend the flowering season over a long period, plant them at intervals of two weeks.



HYACINTH

With a fragrance that is rich and sometimes overpowering, the familiar Dutch Hyacinths take their early place in the spring garden. They are hybrids of *Hyacinthus orientalis* from the warm shores of the Mediterranean. As formal bedding plants they have been widely grown since the late sixteenth century.

In suggesting other uses of Hyacinths aside from formal beds in lawns, a definite advance has been made in garden design. Yet the use of Hyacinths in the garden in just such beds must not be overlooked. They can provide desirable and even striking color masses in the foreground of the shrub border as well as in the perennial garden. Plant them informally in "drifts," and they will scent the spring garden as no other early-flowering plant can.

Hybridizers have produced flower-stalks of enormous size, which after a few years quickly revert to slender spikes of pleasing form that are most useful for cutting.

Set the bulbs five to six inches deep, in rich sandy soil if possible.

While fertilizer is essential, it must not be allowed to touch the bulbs. Dig it well into the subsoil, and mulch them over winter.

Hyacinths are propagated in either of two ways: some Holland growers make a cross cut on the lower surface of the bulbs when they are taken up after flowering, and the bulbs then split, forming many small bulblets along the scales; other growers hollow out the bases to allow new bulbs to form.

Without having a great range of color, there are, nevertheless, several pleasing tints and shades available, and there are both single- and double-flowered forms. In the blue and purple shades, one finds many pleasing tones. Bismarck, Czar Peter, Forget-me-not, and Perle Brillante are among the light blues. King of the



La Victoire

Lilacs has large spikes of true lilac color. Ivanhoe is an improvement on the deep violet-blue of King of the Blues. Dr. Lieber and Grand Maître are best classed as deep blue tones. Queen of the Blues reminds one of the lovely porcelain-blue in chinaware.

Pink and red varieties are holding interest in current catalogues. Dame d'Honneur is vivid rosy red, and General De Wet is a decidedly delicate rose. White margins on the petals of Hjalmer Branting distinguish this rose-colored Hyacinth. La Victoire (p. 239) is well named, for its carmine-rose flowers are very brilliant, as are the heavy rose spikes of Marconi. Robert Stieger has been called



King of the Blues

crimson, and *Roi des Belges* is a most unusually dark red shade.

The brilliant pink of *Gertrude* seems to have been improved in the variety *Pink Pearl*. *Herald*, *Lady Derby*, and *Mont Rose* are in the rosy pink class, while *Gigantea*, *Norma*, and *Princess Margaret* are among the best of the pastels.

When mixed plantings are desired, yellow *Hyacinths* should be included. *City of Haarlem* is noted for its purity of color. *Goethe*, *King of the Yellows*, and *Yellow Hammer* are all worth growing.

Among the desirable white kinds are *Albatros* (*Arentine Arendsen*), *L'Innocence*, and *La Grandesse*.



L'Innocence

*Virginia*

For forcing in window-gardens and greenhouses, the so-called Dutch Roman and French Roman Hyacinths are particularly well adapted. These small-flowered Hyacinths are merely the plants produced by undersized bulbs of the familiar Dutch types. The blue Roman Hyacinth, *Virginia*, illustrated above, is a hybrid of the French and Dutch hybrids which is useful for forcing.

Seldom seen now, the old-time Hyacinth glasses were once popular for growing the bulbs in water. Very satisfactory results can be obtained in this way provided the bulbs are not exposed to sunlight until healthy roots have formed. In forcing Hyacinths, use regulation-size bulb-pans. Plant the bulbs close together, and set them in a coldframe or in the cool cellar until the pots are filled with roots. Then introduce them gradually to light and heat. If the bulbs are not given ample time for root-development, the result is weak foliage, short stems, and imperfect flower-spikes.

*Hyacinthus azureus*

Few parts of the garden are more delightful or more intimate than a well-planted rock-garden. There miniature bulbs can be used to best advantage. One of the daintiest for early bloom is the Azure Hyacinth, *Hyacinthus azureus*, from Asia Minor. The clusters of delicate blue bells taper gracefully to a point, whereas the closely related Grape Hyacinth (*Muscari*, p. 267) has its flowers arranged in columnar form. It blooms in early April and lasts well in flower.



Hymenocallis (Ismene) calathina

HYMENOCALLIS

Better known as the Spider Lily or Basket Flower, this summer-blooming member of the amaryllis family hails from the Andes. The curious lily-like flowers look as if some ambitious grower had snipped the edges with a pair of scissors in an effort to improve on nature. The elongated petals are characteristic of some species of the genus *Hymenocallis* and the related genus *Pancratium*. In an effort to give the *Hymenocallis* rightful recognition, the American Amaryllis Society speaks of them as "Amerindian Lilies."

Set them four to six inches deep, in small groups associated with other plants. Dig and store them in late autumn.

*Incarvillea Delavayi*

INCARVILLEA

This genus name commemorates a famous French Jesuit missionary to China who introduced many desirable plants to cultivation in the eighteenth century. Commonly called the Hardy Gloxinia, this tuberous-rooted plant merits a place in many gardens.

Rising from a mass of rich foliage, the flower-spikes, eighteen to twenty-four inches tall, bear in late May attractive rosy carmine blossoms that somewhat resemble gloxinias (see p. 237). Lovers of unusual plants will find them well worth growing.

A sheltered position in full sun suits best. Set the crowns of the long fleshy tubers an inch or two below the surface of the ground. While not relatively hardy, the roots may be held over in severe climates by a heavy mulch, or stored as one would dahlias.

*Ambassadeur (Bearded)*

IRIS

Irises usually bring to mind the dainty patterns of the fleur-de-lis so commonly found in French art. Few plant-names are more familiar to the amateur gardener in our day. And yet, the name was equally familiar to the ancient Greeks, for it symbolized the Goddess of the Rainbow. From the writing of the learned Dioscorides in the early centuries of the Christian era we learn that the plant was used to remove freckles.

Considerably more than a hundred species have been classified in the genus *Iris*, and it is hardly possible to estimate carefully the many varieties, since new forms

are developed from year to year. For convenience the American Iris Society groups Irises in three classes: the Bearded Iris, the Beardless Iris, and the Bulbous Iris.

The Bearded Irises, erroneously

*Pallida Dalmatica (Bearded)*

but often spoken of as German Irises, are distinguished by rhizomatous roots and pronounced beards on the lower petals or falls. Some of the varieties are derived from an Italian Iris, *I. pallida*, and



Souv. de Mme. Gaudichau (Bearded)



Shekinah (Bearded)

a wild species from Hungary, *I. variegata*. However, other species have entered into the hybridizing of more recent varieties, so they are now classified by color. Several types, among them tall, intermediate, and dwarf forms, are now available in a wide variety of tints and shades.

The Beardless kinds include the Japanese Iris, *I. Kaempferi*; the Siberian Iris, *I. sibirica*; the wild Blue Flag, *I. versicolor*; the Yellow Flag, *I. pseudacorus*.

The Bulbous division is composed of the Dutch, Spanish, and English Irises, generally classified under the *Xiphium* section.

*Iris cristata* (Dwarf)*Iris pumila* (Dwarf)

The Bearded Irises flourish in ordinary well-drained garden soil and will endure partial shade. They have a decided preference for lime, and are best transplanted after flowering, usually from late June to August. Separate the clumps every third or fourth season, and set the rhizomes just below the surface of the soil.

In recent years, borers and root-rot have become increasingly noticeable Iris pests. Unless the varieties afflicted are unusual, it is best to destroy all diseased roots and obtain new plants.

For accent purposes, in masses, or in combination with other plants, Bearded Iris is invaluable for its remarkable color-range as well as its foliage, which lasts well through the growing season. Excellent use has been made of this Iris along roadside banks as a ground-cover because of its drought-endurance.

DWARF IRISES

Among the earliest to bloom are the Dwarf Irises, usually grown in the rock-garden or as border plants. *Iris pumila*, a miniature form of the tall bearded types, is a compact grower, which makes it a useful plant for small gardens. *I. Chamæiris*, with its many varieties, is worth growing also.

The flat, crested flowers of *I. cristata*, native in the Southwest, are highly desirable for the wall-garden. All too little known is the Japanese Roof Iris, *I. tectorum*, which is a significant plant in Oriental history. Yellow centers accentuate the blue flowers of *I. verna*.



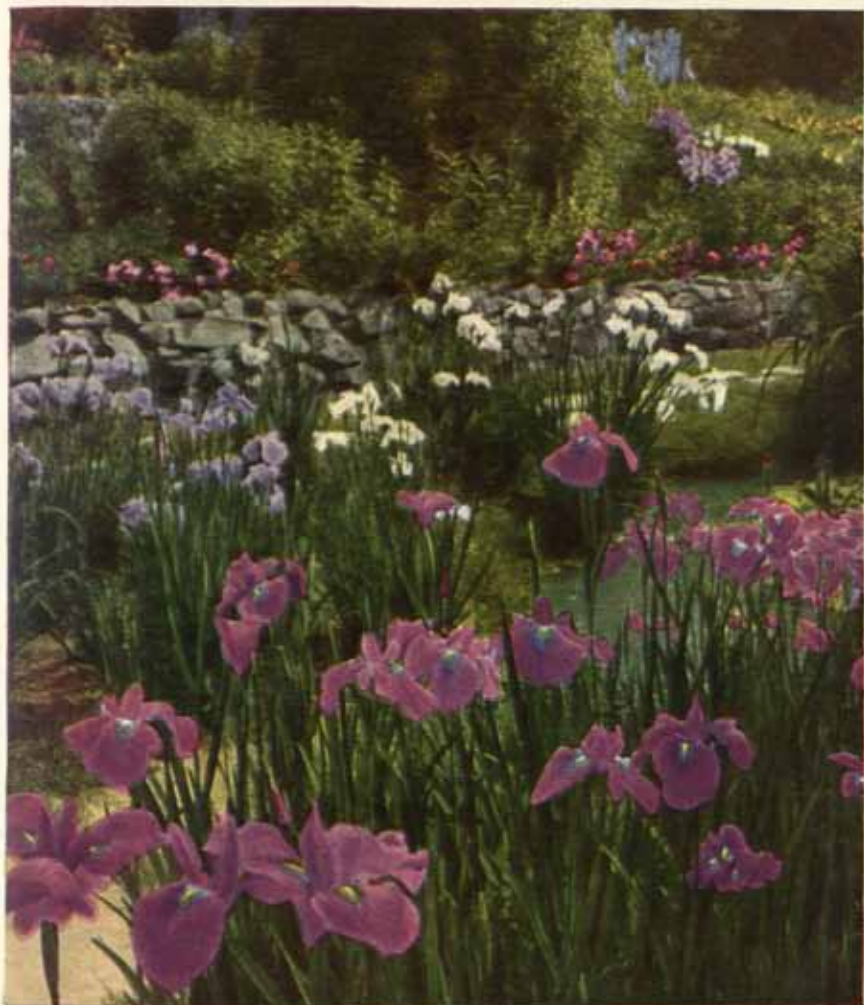
Kharpit—an intermediate form of Bearded Iris



Iris Kaempferi hybrid (Japanese)

Picturesque Oriental names have been given to many of the unusual hybrids of *Iris Kaempferi* and *I. levigata*, which came originally from China and Japan. Indeed, the cherry blossoms, the chrysanthemums, the morning-glories, and the irises are so important in the every-day life of the Japanese that they have established holidays on which to enjoy these flowers.

Best adapted to moist conditions, Japanese Irises need abundant water, at least just before their blooming-time. Rich loam and



Japanese Iris happily situated

generous watering make it possible for us to enjoy them in relatively dry borders. The Japanese Irises include single flowers with three large petals and double forms with six smaller petals. There are very many named varieties. Wherever possible, plant them along a pond or stream. Transplant or divide the clumps in early spring or late summer. Unlike the Bearded Iris, the rhizomes are surrounded by masses of fibrous roots. They grow readily from seed.

IRIS SIBIRICA

Among the most graceful flowers to be found in the *Iris* family are those of the Siberian Iris and its improved forms. Reliably hardy, the original species came to us from central Europe. *Iris sibirica* and the closely related *I. orientalis* are widely used.

Preferring moist soil, these plants are admirably adapted for naturalizing along streams or ponds. Among shrubs or in perennial plantings, they produce luxuriant foliage which provides a setting for late-blooming perennials and annuals. Undisturbed clumps decay in the center and form a dense mass of roots which cause the flowers to deteriorate. Divide them every third or fourth year, preferably in late summer.



Iris sibirica, Perry's Blue



Iris Xiphium hybridum (Dutch)

BULBOUS IRIS

The true bulbous members of the great Iris family, as distinguished from the rhizomatous groups, like the Bearded Iris, have not received the attention that they deserve in twentieth-century gardens. Perhaps this is largely due to the restraints of Quarantine 37. Now, however, the bulbs are being grown in great quantities in and around Puget Sound, and are more readily available. Several kinds are procurable, listed as Dutch, English, and Spanish Irises, all being generally classed as of the Xiphium section.

The Dutch Iris are hybrids of *Iris Xiphium* (illustrated above), the result of careful development by the energetic Holland growers.

From the warm climate of southern Europe has come the Spanish Iris, *I. Xiphium* (illustrated on page 255). Although these extraor-



Iris xiphioides (English)

dinary members of the Iris family have been cultivated for nearly three hundred years. they are little known.

Similar in form, but larger in size, is the English Iris, *I. xiphioides*, from the mountains of Spain and France. The common name, English Iris, is derived, undoubtedly, from the fact that the plants were grown in England before 1600, and were considered indigenous.

The striking variety Wedgwood, shown on page 256, is a hybrid of *Iris tingitana*, from North Africa. Although florists grow it successfully, it is almost never seen in gardens. Yet it has proved decidedly hardy in western Massachusetts, blooming in early June.

These little-appreciated gems are enjoyed to best advantage when planted in groups of a dozen or more. The colors are predominantly blue, yellow, and white, and should be massed separately.

Plant the bulbs four to five inches deep, in early October. Give



Iris Xiphium (Spanish)

them a sunny location and a well-drained position. They will invariably send up a sparse amount of foliage in the fall, and should be given a light mulch after the ground freezes. While the bulbs may be left in the ground, some growers dig and store them over summer after the foliage has thoroughly ripened.



Iris tingitana,
Wedgwood

*Ixia hybrids*

IXIA

Down through the ages, explorers and merchants have been among our most notable plant collectors. Through their efforts China, Japan, and South Africa have contributed many new plants to our gardens. Many of our cherished plant treasures have come from the Cape of Good Hope, and among them the *Ixia*. Of Greek origin, *Ixia* means bird-lime, and is believed to refer to the juice of the stems. This small cormous plant, of which there are more than twenty-five species and

many varieties, is a member of the iris family. The genus *Sparaxis* (see p. 281), also native to South Africa, is closely related to the *Ixia*.

Star-shaped flowers, often marked with dark blotches near the bases of the petals, give this little-known genus distinction. Running the gamut from scarlet through crimson to orange and yellow, these plants have the long, slender stems which recommend them for cutting. A curious blue-green kind spotted with black is known as *Ixia viridiflora*. Unusually tall, sometimes four feet in height, is the recent hybrid *I. Bloem Erf* with flowers of pinkish blue. The slender grasslike foliage of the various species is of little consequence.

For winter bloom, the bulbs are usually potted in early fall. Set them an inch deep, and fairly close together. They require much the same care that most bulbous plants need for forcing purposes. Strong, healthy roots must be allowed to develop before top-growth begins, which indicates the need for a cool temperature at the start. As the tops develop, water freely until the flowers have faded. After flowering, allow the bulbs to dry off as one would freesias, before storing them for the summer months. *Ixias* are sometimes grown in coldframes.

When growing them in the open, one should plant the corms just before the ground freezes. Three inches is a good planting-depth, and adequate drainage is a necessity. A mulch will serve as protection against alternate thawing and freezing, and it should be removed gradually when all danger of frost is past. A sheltered location in full sun will produce the most satisfactory results.



Lachenalia pendula superba

LACHENALIA

English plant-lovers have done more in the way of popularizing the South African bulbous plants than we have in America. Particularly is this true with the Lachenalias, or Cape-Cowslips as they are more familiarly known.

In their native haunts, these unique members of the lily family flourish on sandy flats. Usually a dozen species are listed, but it is doubtful whether or not all of the fifty or more species have been classified. Many improved forms have been introduced.

Lachenalia pendula superba (illustrated above), with its tulip-like foliage, has proved successful as an early winter house-plant, since it flowers naturally without forcing. The crimson-scarlet, firecracker-like flowers endure for several weeks and lend a cheery note to the window-garden. They are most satisfactory in a cool greenhouse. Usually the bulbs are potted in late summer, as one would freesias, and kept in a cool place until strong root-growth has developed. A sunny window suits them. Ample watering and applications of liquid manure will help materially to produce large flowers. Like so many of the tropical bulbous plants, they require a thorough drying out in the dormant period which follows flowering.

*Leucojum aestivum*

LEUCOJUM

These are the Snowflakes of the early spring garden. Taller than many of our early-flowering bulbs, they grow best in small clumps, like violets. In fact, the genus name, which dates back to Theophrastus, means white violet. They were cherished in the seventeenth-century garden of John Parkinson, who considered them next in importance to the daffodils. *Leucojum* should not be confused with *Galanthus*, the Snowdrop (see p. 219); the former produces more abundant foliage and large flower-spikes.

Leucojums are by no means difficult to grow, and seem to do well in ordinary garden loam, preferably in full sun. Set them at least four inches deep, in well-drained soil. As with other early-flowering bulbs planted in the shrub-border, they can be left undisturbed for many years, increasing into great clumps, from which arise the dainty blooms in late April.

The species *Leucojum vernum* is perhaps the best known, with its delicate white bells, dotted green, on twelve-inch stems. A later-flowering kind is *L. aestivum*, the Summer or Meadow Snowflake. Then there is a fall-flowering kind known as *L. autumnale*, but it is comparatively rare.



Leucocoryne ixiioides odorata

LEUCOCORYNE

Glory-of-the-Sun is a much happier name than the interminably long attachment which the botanists have given this South American native. It was the British plantsman, Clarence Elliott, who rediscovered this unusual bulbous plant in the mountains of northern Chile. The genus is related to the brodiaea of the West Coast.

The flowers are not unlike those of chionodoxa, or Glory-of-the-Snow (see p. 187). Produced in graceful umbels on wiry stems a foot and a half tall, the delicate blue flowers, shading to white, are marked with three false stamens of butter-yellow. They emit a delicately sweet, nutty scent not unlike that of the heliotrope, and the flowers last exceptionally well in water. Best treated as one would freesias, the bulbs prefer a potting mixture of light rich soil and a temperature of fifty to sixty degrees.

*Leucocrinum montanum*

LEUCOCRINUM

Not to be confused with *Leucocoryne* or *Glory-of-the-Snow*, and perhaps best described as another of the overlooked plants native to the West Coast, *Leucocrinum montanum* is known also as the Sand-Lily, the Desert-Lily, and the Wild Tuberose. The genus name, of Greek origin, means white lily.

This "limited edition" of the lily family has pure white, stemless blossoms that are delicately fragrant. Nestling among the rather sparse grass-like foliage, the small blooms, somewhat resembling crocuses, come forth in early April.

Although it is little known and appreciated in our gardens, *Leucocrinum montanum* has had the attention of England's great plant-hunter, Reginald Farrer, who considers it "a most entrancing species, worth any comfort that its fleshy roots exact."

The Sand-Lily must have sandy or gravelly loam, in a well-drained, sunny location, and is best set out in early fall. Often-times it will not bloom for a year or more after transplanting. Set the fleshy rhizomatous roots where they will not have competition from other plants. The foliage disappears shortly after the flowers, and provision must be made for its retreat. Annuals may be interplanted to take its place in the garden.

*Lycoris squamigera*

LYCORIS

One of our overlooked hardy Amaryllids, *Lycoris squamigera*, sometimes listed as *Amaryllis Halli*, would well repay more attention from discriminating gardeners. The name *Lycoris* refers to some unknown Greek lady. The species *Squamigera* was introduced to American gardens from China by Dr. G. R. Hall, a New England physician who spent considerable time collecting plants in China and Japan.

Dr. Hall stated that the dainty pink trumpet flowers were highly regarded by the Chinese. Several other species are included in the genus, among them *L. sanguinea*, with reddish orange flowers.

Lycoris sends forth strap-shaped foliage in early spring, which matures and disappears in early summer, only to be followed by naked stems, which often rise three feet, producing, in August, small clusters of soft pink lily-like blossoms that are delightfully fragrant.

The bulbs are usually set four inches deep in early fall. *Lycoris* will thrive in partial shade and has been naturalized in woodlands. In gardens it needs the companionship of foliage plants.

*Milla biflora*

MILLA

Unlike many of the plants native to Mexico, *Milla biflora* has to be viewed at close range to be enjoyed. Called by the natives "Little Stars," or "Star-Lily," this modest white blossom, a member of the lily family, seems to have acquired recognition recently.

The flat, star-shaped flowers, which come in midsummer, often expand two inches on stems twelve to fifteen inches tall. Stripes of apple-green accentuate the supporting tubes and extend to the tips of the petals on the under surface. A lily-like fragrance further adds to the attractiveness of this waxy star.

Give it a place in the rock-garden where it cannot be overlooked. A tender bulb in eastern gardens, it may be planted three inches deep in May, several bulbs close together. Rich soil in a sunny location suits it best. Store the bulbs over winter in a cool place.

Star of the East

His Majesty

MONTBRETIA

So close is the resemblance and the relationship that the Montbretias might well be called miniature forms of *Gladiolus primulinus*. Botanically, these summer-flowering bulbs are known as *Tritonias*. The name, derived from "triton," meaning vane or weather-vane, refers to the variable directions which the prominent stamens assume. As with many of our

tender bulbs, Montbretias were introduced to American gardens from South Africa, and they are now being grown by many discriminating gardeners.

English hybridizers have produced many interesting and striking hybrids, some of which grow three feet tall in rich soil. Apricot Queen is a pleasing blend of apricot and yellow. A crimson-maroon blotch in the center of canary-yellow petals best describes Citronella. The brilliant golden orange of Comet is more intense in the large flowers of Fiery Cross, which has a primrose center. Blooms of great size, showing yellow, crimson, and scarlet, are known as His Majesty (illustrated opposite).

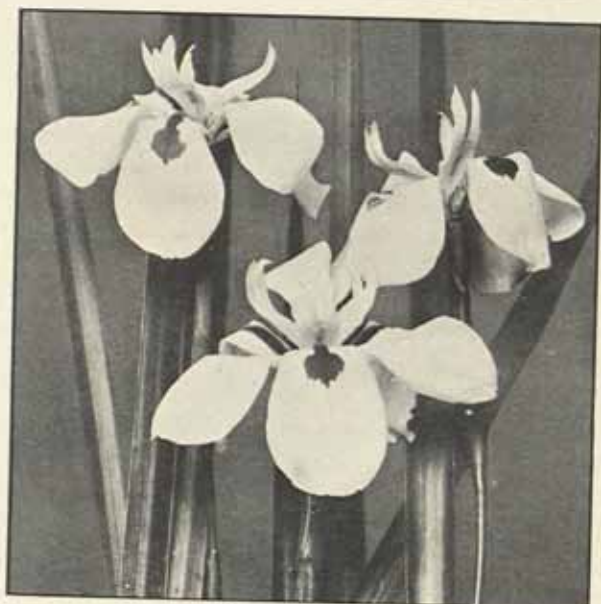
Indian Chief is noted for its large blossoms, suggestive of such autumnal hues as coppery orange, crimson, maroon, and golden yellow. James Coey is dominantly vermilion-scarlet. Golden apricot shades, with central markings of rose-crimson, make J. Cross a striking flower. Outstanding among the yellows is King Edmund, with a carmine center, and the crimson ring of Nimbus accentuates the center of its golden yellow flower.

Decidedly more trumpet-shaped are the apricot-yellow blooms of Lady Hamilton. Marjorie has flat flowers of orange-yellow, with crimson centers. Star of the East, with its soft orange-yellow petals and pale lemon centers, opens flat, and is unusually large. An almost indescribable combination of apricot, orange, and crimson is found in the hybrid Una.

For the best landscape effects, Montbretias should have the middle ground in the garden picture. The many hybrid forms have a brilliant color-range and require a background of foliage, either evergreen or deciduous. Then, too, the stems are rigidly straight and need the softening influence of loose foliage as a foreground. Planted in groups of six or more, they provide dominant accents in the shrub border or with perennials. Masses of white flowers planted near them will enhance their beauty.

From a decorative standpoint, the flowering-spikes of Montbretias are distinctly valuable not only for their vivid coloring but also for their enduring quality as cut-flowers. When grown for cutting purposes they are best planted in rows.

Set the corms at least three inches deep in full sun. Rich, light soil and applications of liquid manure will produce vigorous flower-spikes. Although they are quite hardy in the milder parts of the East, many gardeners prefer to dig and store them over winter.

*Moræa iridioides*

MORÆA

Known in their native habitat as "Little Owl," "Uiltje," and "Butterfly" (Shoenlapper), these South African relatives of the iris family resemble somewhat the familiar Japanese iris. Very dainty in flower and stem, they sway with the lightest breeze. The genus name commemorates a Swedish physician whose daughter married Linnæus, to whom the world owes the existing binomial system of plant classification.

Moræa glaucopis, the Peacock Iris, often listed as *Pavonia*, has proved fairly hardy with protection in several New England gardens. The dark spots at the bases of the pale blue petals remind one of the markings on peacock feathers; hence the derivation of this particular common name.

Moræa iridioides, the Natal Lily, is popular in Florida gardens, where it is often grown near pools. Its three-inch flowers are white, marked with yellow and blue.

In Florida, *Moræas* grow and bloom abundantly outdoors, though they are seldom seen in northern gardens. They may readily be grown in a greenhouse as one would treat freesias.

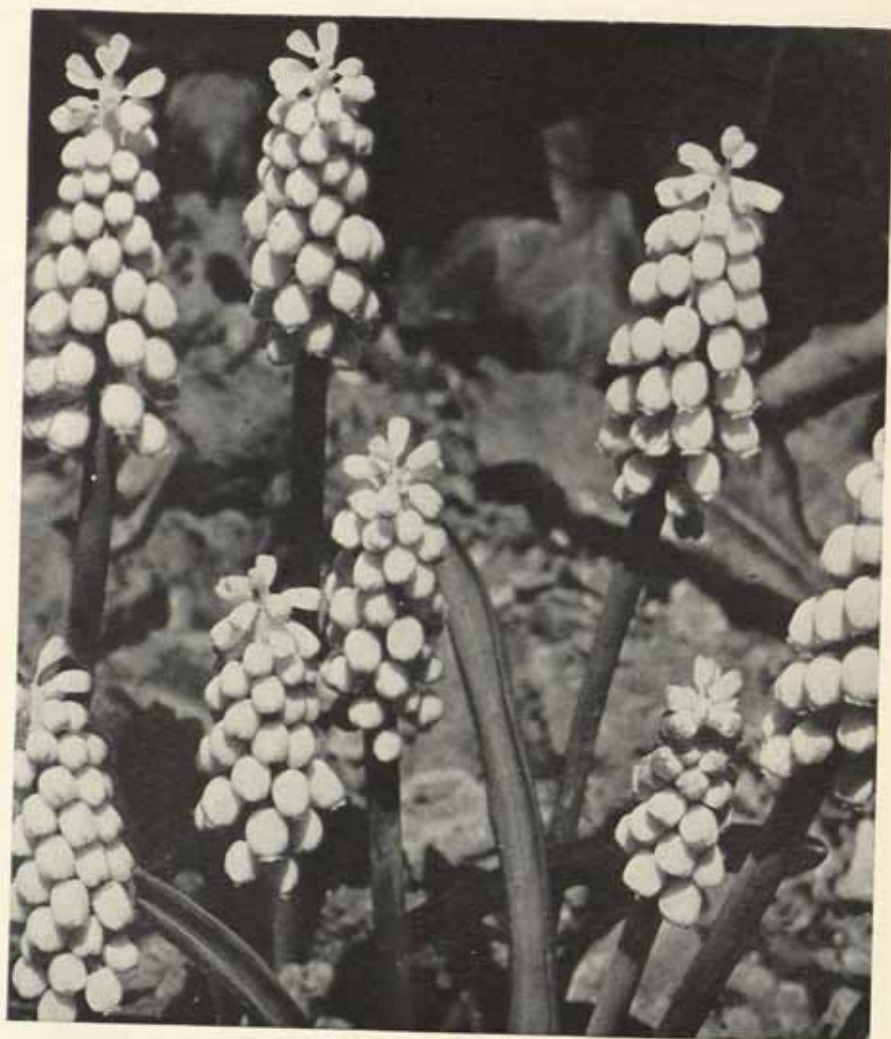
*Muscari botryoides*

MUSCARI

Grape Hyacinths have all the daintiness of many of our miniature spring-flowering bulbs. Their delicate spires of blue and white loom up like so many fairy sceptres. Formerly botanists classified them as Hyacinths (see p. 243), but Muscari differ in the formation of the individual flowers, which taper almost to a point, with only a small opening. The individual flowers of the Dutch Hyacinths expand, making a star-like formation. Muscari, derived from the Latin, means musk, in reference to the slight odor of the flower.

Many species of Muscari are grown, but most of them are little known. A tassel-flowered kind, known as Muscari comosum, and its variety Monstrosum or Plumosum are curiously feathered types.

The species Botryoides (the Latin for bunch of grapes) is native to



Muscari botryoides alba

Italy, France, and Germany, and most of the Grape Hyacinths of commerce are of this species. Evidently it adapts itself readily in open fields, for it is often "wild," as an escape from gardens, in the Middle Atlantic States, notably in Pennsylvania and Maryland. It seeds readily when once established, and is best planted where there is ample room to spread. The white form is highly desirable, because it does not multiply like the species. A variety listed as Heavenly Blue has larger flowers and grows with more vigor than the common Grape Hyacinth. Set the bulbs two or three inches deep.



Nerine sarniensis hybrids

NERINE

Better known as Guernsey Lilies, these autumn-blooming bulbs from South Africa have been all but overlooked in gardens, save in Arkansas and Louisiana, where they persist over the easy winters. Like many of the amaryllis family, the bulbs are not frost-hardy, and must be stored over winter. Plant them in early summer for September bloom, which will be followed by a growth of foliage.

Although the flowers do not last long, they are highly decorative.



Ophiopogon Jaburan (listed botanically as *Liriope Muscari variegata*)

OPHIOPOGON

Better known as Lily-Turf, because of its extensive use as a ground-cover in the South, this Japanese member of the lily family is sometimes spoken of as Mondo. Its Greek name means snake and beard, referring to the shape of the flower-spikes. However, the botanists now call it *Liriope Muscari variegata*.

Green and white foliage, when used carefully, provides the effective contrasts especially needed in shady gardens. Here, indeed, is a useful plant which thrives in partial shade. The spikes of soft lavender flowers are of little consequence in comparison with the pleasing variegated evergreen foliage.

Lily-Turf is grown with little difficulty in greenhouses, and as a house-plant. While it is not reliably hardy, it can be grown out-of-doors in the East in sheltered places, and is well worth planting for its distinctive form. The small tuberous roots may be divided in spring or fall, and do not seem to be particular as to soil.



Ornithogalum umbellatum

ORNITHOGALUM

Although native to the regions bordering the Mediterranean, the Star-of-Bethlehem, or Summer Snowflake, has become widely naturalized in many parts of the eastern United States. The genus name may have had some significance for the ancient Greeks, but the translation, "bird" and "milk," seems to have no recognized association with these plants. Many species are scattered through Europe, Asia, and Africa.

The Star-of-Bethlehem, *Ornithogalum umbellatum*, multiplies so rapidly that it requires ample space in the shrub border or in a place where it can be naturalized. Its white flowers, in clusters on six-inch stems, rise from grass-like foliage which disappears in midsummer. Set the bulbs at least two inches deep in early fall.



Ornithogalum thyrsoides aureum

Among the tender species which are very desirable for the window-garden is *O. arabicum*, with fragrant white flowers. *O. maculatum* produces light orange blossoms, and those of *O. splendens* are orange-red. The Chinchinchee, or Wonder Flower, *O. thyrsoides*, and its golden yellow variety *Aureum* (illustrated above) are remarkable for their long-lasting flowers, which endure several weeks when cut.

For winter blooming, plant the bulbs in pots and put them in a cool place until roots develop; then set them in a sunny window.

OXALIS

*Oxalis hybrids*

When hanging-pots were found in nearly every kitchen window, the winter-flowering *Oxalis* was a very popular house-plant. In recent years it seems to have been forgotten, but with the keen interest in winter gardens at the present time, it will undoubtedly come to take its rightful place once again.

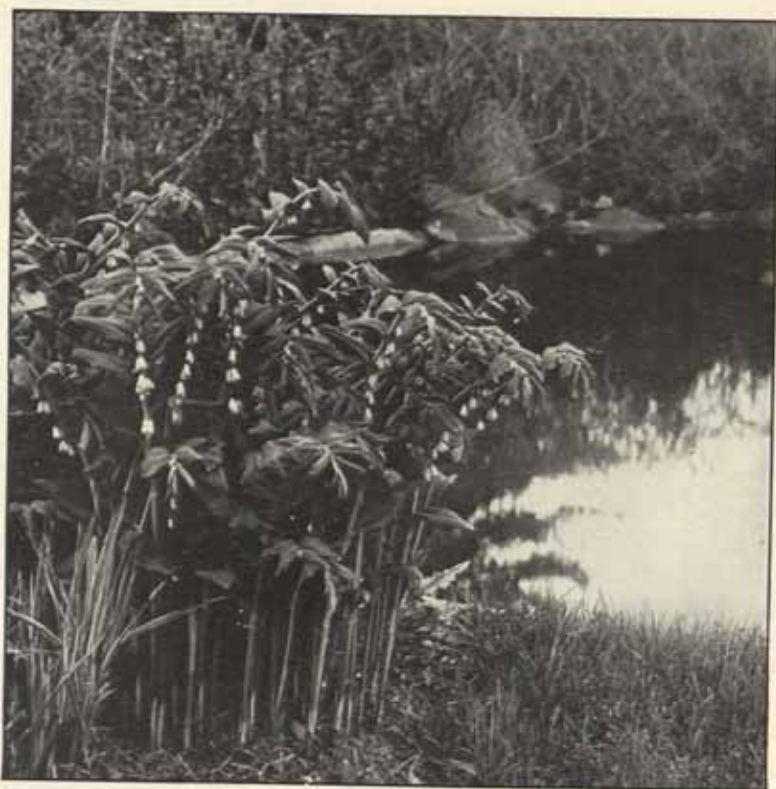
The name *Oxalis* is from the Greek, meaning sharp—an allusion to the strong acid quality of the foliage. Its common name, Sorrel, meaning sour, is

always associated with the wild species *Oxalis corniculata* which, while not indigenous, has become an objectionable weed in many parts of America. More than three hundred species of these dainty plants are scattered in North and South America, Africa, and Europe. Strangely enough, this genus is little grown in American gardens. The clover-like foliage is always pleasing, even though the leaves tend to close up toward dusk.

A little-appreciated native species is *O. violacea*, often found on rocky hillsides in New England and in similar places elsewhere in the East. It is of sufficient charm to warrant a choice corner in a shady rock-garden.

Sometimes found in country gardens is a summer-blooming *Oxalis* which seems to answer the description of *O. Bowiciana*. The writer has seen it in rock-gardens and as an edging plant in partially shaded areas. Its brilliant pink flowers on six-inch stems are produced from midsummer through September and are very showy. The bulbs are stored over winter like gladiolus.

Oxalis variabilis is easily grown indoors and makes showy color masses with its shades of deep rose, pink, white, and lavender. *O. cernua* is a bright yellow kind. Set at least three bulbs in a four-inch pot, or five in the six-inch size. Place them just below the surface of the soil in a fairly rich potting mixture. To enjoy large flowers over a long period, make use of liquid manure at intervals through the growing season. The bulbs need a rest and should be allowed to dry off in late spring before storing them for the summer.

*Polygonatum giganteum*

POLYGONATUM

Our native Solomon's Seal, *Polygonatum biflorum*, is one of the most desirable plants for wild gardens, and for some not so wild. Its botanical name comes from the Greek, meaning many knees, in reference to the joints in the rootstalk. *Smilacina racemosa* (see p. 280), the False Solomon's Seal, is sometimes confused with this genus.

In partially shaded areas, associated with ferns, it makes its natural home. The gracefully arched stems, usually a foot or more tall, are laden from April to July with white tubular flowers that hang like so many fairy chimes above the lowly mosses and lichens.

Taller in growth is the species *P. giganteum*, also indigenous to the United States but less widely distributed. This form will reach four feet or more, and makes a graceful mass in the spring garden.

*Puschkinia scilloides*

PUSCHKINIA

This little-known member of the lily family, sometimes called the Striped Squill, was named for a Russian botanist, and probably its harsh botanical name has held back its deserved popularity. It was brought into cultivation from Asia Minor. Although related to the scilla (see p. 277) and the chionodoxa, it is not as showy as either.

Clusters of small, pale blue flowers, marked with a deeper blue stripe, terminate the flower-spikes, which are eight to ten inches tall.

Puschkinias belong in the gardens of those who enjoy rare and unusual items, rather than with the inexperienced amateur. In fairly large masses they will make a display if given every opportunity to dominate the area. Set them in clusters, three inches deep in early autumn. They do not seem to be particular as to soil, and will grow well in partial shade or in full sun.



Ranunculus asiaticus hybrids

RANUNCULUS

This genus name brings to mind the familiar Buttercup of the spring meadows. In fact, the name is derived from the Latin meaning little frog, in reference to many of the species which are found in damp meadows. The word *Ranunculus* also designates the great Crowfoot family, which includes many of our garden flowers—delphinium, anemone, aquilegia, clematis, and a host of others.

Ranunculus asiaticus, known as the Turban or Persian Buttercup, is a favorite of florists for winter forcing, together with *Anemone coronaria* (see p. 168). They are both highly decorative cut-flowers for winter flower arrangements. While some gardeners grow them out-of-doors in mild climates, the fleshy roots, usually listed as bulbs, are best grown in a cool greenhouse, in rich soil.

*Scilla sibirica*

SCILLA

These brave little plants often endure the hardships of wind, rain, and late snow to forge their way into the spring landscape. For most of us there are but two species of *Scilla*—*S. sibirica* and *S. campanulata*; yet more than eighty species have been classified, and thirty or more species and varieties are commercially handled by the Holland growers at the present time.

From the cold climate of Siberia some keen plantsman brought the Siberian Squill, *S. sibirica*, more than one hundred years ago. It has readily adapted itself to American gardens and grows with equanimity in sun or shade. It is best planted without a formal pattern, although some gardeners prefer to use it as an early edging



Scilla campanulata

plant, followed by annuals. There is a white form, known as *S. sibirica alba*.

Decidedly taller is the Spanish Bluebell, *S. campanulata*, or, more correctly, *S. hispanica*. Often eighteen inches tall, it is very effective when massed with azaleas, especially yellow varieties. White forms, several shades of blue, and even pink sorts can be had.

Plant the bulbs of *S. sibirica* two inches deep and those of *S. campanulata* four to six inches below the surface of the soil.



Scilla campanulata planted to advantage

*Sisyrinchium grandiflorum*

SISYRINCHIUM

Like dainty narcissus, the blossoms of *Sisyrinchium grandiflorum* (S. Douglasi), known as Grass Widow, nod their heads in the damp mountain meadows of the Northwest. (The smaller eastern species travels as Blue-eyed Grass.) The genus name, which is something of a tongue-twister, has little significance. On the other hand, its popular name has a rather amusing connotation which somehow makes it memorable.

Dr. Ira N. Gabrielson, in his delightful book, "Western American Alpines," testifies to its hardiness and states that the royal purple blossoms, in combination with those of *Fritillaria pudica* (see p. 218) make a striking picture. In addition to the normal purple tone, there are ivory, pink, and rose forms. The flowers measure an inch in diameter and sway gracefully on slender stems. The sparse, rush-like foliage, seldom more than twelve inches tall, gives these plants the graceful charm often characteristic of Japanese flower arrangements.

Usually the spring rain provides *Sisyrinchium* with ample moisture, but, in turn, it endures the scorching sun of the West Coast summers without any apparent difficulty.

*Smilacina racemosa*

SMILACINA

The False Solomon's Seal of shady woodlands in many parts of North America is *Smilacina racemosa*. The true Solomon's Seal is *Polygonatum biflorum* (see p. 274). As the name *Smilacina* suggests, this glossy-foliaged plant is related to the smilax of the South. Its plumes of creamy white flowers, on stems two to three feet tall, emit a delicate fragrance suggesting a woody atmosphere. They are followed by clusters of brilliant red berries and have great merit in wild gardens or in naturalistic plantings. In combination with ferns it provides contrast in color and form which gives a note of variety to the somber green fern-fronds.

Plant the fleshy rootstalks in rich soil, preferably with some leaf-mold. Give them a shady location, with room to spread, and they will develop an interesting colony in the wild garden.

*Sparaxis tricolor*

SPARAXIS

This member of the iris family, native to South Africa, is commonly known as Wandflower. The Greek name Sparaxis, meaning torn, is a reference to the torn spathe, which is nothing more than the papery coat surrounding the bud.

Somewhat larger than the ixias (see p. 257) to which they are closely related, these curiously marked, starry flowers vary greatly in color. Orange, white, dark crimson, purple, red, and mauve, as well as many striking color combinations, are available in the newer hybrids. As one would expect, the Dutch growers were fascinated with these unusual cormous plants, and did much to improve them, but they are little known in the gardens of eastern United States.

The plants are seldom more than eighteen inches tall, with fan-like foliage. When grown indoors, they are best treated as one would ixias. Three species, *Sparaxis bulbifera*, *S. grandiflora*, and *S. tricolor*, are available from seedsmen. They offer an unusual array of colors for the greenhouse.

*Sprekelia formosissima*

SPREKELIA

A rare Amaryllid is *Sprekelia formosissima*, sometimes listed either as the St.-James Lily or the Jacobean Lily. The American Amaryllis Society recognizes it as the Aztec Lily. It is little known in American gardens, and yet it was grown in England as early as 1658. The curious fleur-de-lis-like flowers are a rich velvety crimson.

Although not hardy, it is quite successful as a summer-flowering bulb. It may be planted in late April or early May. Set the bulbs in rich loam that is not too heavy, and give them full sun. Dry the bulbs carefully, and store them in a temperature above freezing.

*Sternbergia lutea*

STERNBERGIA

A bit of fresh golden yellow color for the autumn rock-garden is provided by the cheery cups of *Sternbergia lutea*. Indigenous to several Mediterranean countries, it was known in English gardens as Autumn Daffodil before America was settled. Tradition has it that an early Virginia governor grew it in his garden at Williamsburg. This tiny bulbous plant has long remained an overlooked possibility, even more than the autumn crocuses and colchicums.

Unlike the autumn crocus (see p. 196) which it somewhat resembles, *Sternbergia* develops its foliage shortly before it blooms, adding to the beauty of the richly textured flowers which come forth usually in mid-September. Plant the bulbs in late August, three inches deep in well-drained soil, where they will have full sun.



Tigrisia hybrids

TIGRIDIA

In the ancient gardens of Mexico the gay *Tigridias*, known to the natives as *el cacomite*, were grown not only for their beauty but for their definite food value. The genus name, *Tigridia*, is the Latin for tiger, alluding to the curious spots on the petals. This also explains the common name Tiger-Flower. Few more brilliantly colored flowers are to be found in the great iris family than these Shell-Flowers, undoubtedly named for the iridescent beauty of the large, bizarrely formed blossoms.

The many elaborately hued hybrids have been developed from the species, *Tigridia Pavonia*, and include combinations of pink, white, lilac, yellow, scarlet and orange, blotched and spotted with shades of crimson and maroon. These triangular flowers are decidedly unique. The three outer petals form a triangular pattern which is repeated in the arrangement of the three smaller petals at the center of the flower. Although the individual blossoms last only a day, the plants are free flowering, and lend a dominant color-note for many weeks. Usually the stems are two to two and one-half feet tall and do not require staking.

Observation will reveal that the buds are borne in a tight cluster, and open one at a time. In order to have the full benefit of the flowers, one should not cut the stems until the last bud has opened. Notwithstanding the short life of the blossoms, they can be used as cut-flowers if the stems are seared immediately after cutting.

All too often amateur gardeners fail to realize the landscape value of summer-flowering bulbs. With many, the tendency is to set them in rows. However, a careful study of plants in their native haunts will reveal definite associations of groups. Thus the idea of arranging plants in colonies may well be followed out in gardens. Try it with *Tigridias*.

Since their stems are rather stiff and the foliage sparse, *Tigridias* are most effective when planted in shrub borders or with vigorous-growing perennials like peonies. Groups of them may be massed in front of white phlox with a pleasing effect. To further enhance their beauty, they should have the benefit of a low foreground planting.

Set the bulbs at least four inches deep, in early May. Give them rich soil, in full sun. Like most tender bulbs, they must be dug in late autumn and dried thoroughly before storing them in a cool, dry place over winter.



Trillium grandiflorum

TRILLIUM

The Wake-Robin, blossoming forth in woodland and garden, is one of Nature's reminders of the approach of spring. Few of our native plants are more suitable for wild gardens than the familiar Trillium. Naturally lovers of moisture, these rhizomatous plants flourish in partial shade, taking deep root in leaf-mold.

There are many species native in various parts of the United States. The dark reddish purple blooms of *Trillium erectum* need a contrasting background. Large white flowers on long stems are characteristic of *T. grandiflorum* and *T. ovatum*; both gradually turn pink and become much deeper with age. The former is of high value for naturalizing about the home. *T. nivale* is a dwarf white sort. Spotted leaves and purple flowers designate *T. recurvatum*. The fragrant white blossoms of the species *T. sessile* are notable, as is its California form, and so, too, are the pink blossoms of *T. stylosum*. *T. undulatum*, the Painted Trillium, has wavy petals, edged crimson, and is very lovely.

Plant the rhizomes three to four inches deep in the fall, preferably in moist, rich soil where there is some shade. They naturalize well in groups with ferns and with native plants.



Tritoma hybrids—*Flaming Torch*, *Golden Thoughts*, *Sulphur Spire*

*Royal Standard*

TRITOMA

The name Tritoma is considerably easier to remember than the more correct but awkward Kniphofia, commemorating a German professor. This showy member of the lily family is much better known as Torch-Lily, Red-Hot-Poker, and Flame-Flower. The brilliantly colored blooms, which appear in midsummer, are showy exclamation points in the garden, and demand ample space to develop, as well as a rich green background to display their truly torch-like flowers.

Varieties of high merit, among them the Pfitzeri hybrids, are available from many American growers. Autumn Tints is a striking combination of red and gold, as is Flaming Torch, a predominantly red flower shaded with yellow. Well-chosen names, which are self

descriptive, have been attached to the forms known as Golden Thoughts, Sulphur Spire (p. 287), Orange Glow, Salmon Beauty and Tower of Gold. Royal Standard (p. 288) is a spectacular bicolor form.

Tritoma Pfitzeri (*Kniphofia uvaria grandis*) is valued for its free-flowering habit and its showy spikes of orange-scarlet which shade to rich salmon-rose. Seedlings of this variety tend to vary in color.

Consideration of the tropical climate of South Africa, from which they first came, convinces the gardener that *Tritomas* are not hardy where the winters are severe. As snow seems to be very detrimental to them, in the cold climate of New England it is hardly wise to rely on a heavy mulch to protect the roots. Therefore, it is far better to store them over winter in boxes, with some soil. South of Philadelphia they usually prove hardy under a protective mulch.

Divide or transplant the fleshy rootstalks in early spring. Set the crowns about an inch below the surface of the ground. Rich soil, in full sun, is necessary to get the best results.



Tritoma Pfitzeri



Tuberose (Polianthes)

TUBEROSE

Reminiscent of old-time gardens, the fragrant Tuberose (*Polianthes tuberosa*) is gradually re-establishing itself as a summer-flowering tuber. Undoubtedly it fell into disfavor because of its continual association with funerals. Strangely enough, many people took the same attitude toward the calla lily, but both the calla and the Tuberose are regaining popularity.

A native of Mexico, this member of the amaryllis family has long been cherished by Dutch growers for its fragrance and white beauty.

Linnaeus first gave this plant its genus name in 1737, but later in the same year spelled it differently in another publication. Modern botanists believe that the derivation is from "shining white flower," in reference

to the waxy petals, which take on a new beauty at night. (The common name, by the way, has no association with the rose; it is tuberose, an allusion to the tuberous root.) Like the flowering tobacco, *Nicotiana affinis*, the fragrance of the Tuberose is more penetrating in the evening air.

The large double Tuberose known in commerce today as The Pearl, and the single variety, Mexican Everblooming, are both worth growing.

Tuberose are well associated in the garden with heliotrope and scented geraniums; their tall stems and sparse foliage make them suitable for interplanting. For early flowering, start the bulbs in pots indoors. A succession of bloom may be enjoyed over a long period by planting the bulbs at intervals of two weeks during late April and May.

Set the tuberous roots at least two inches deep, and plant them in clusters of three or more, preferably in rich soil. Since the penetrating fragrance is objectionable to some people, Tuberose should not be planted too near windows or porches.



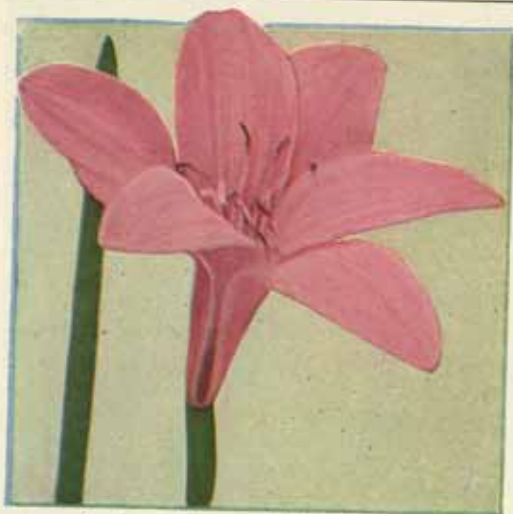
Watsonia hybrida

WATSONIA

This gladiolus-like flower was named for Sir William Watson, an English botanist. It is another of the South African cormous plants belonging in the iris family, with the common name Bugle-Lily.

As the photograph suggests, the flower-spikes are taller than those of the gladiolus, often measuring six feet in height. *Watsonia augusta* has showy scarlet flowers, and those of *W. iridifolia* O'Brieni make a good companion for the species. Flaring rose-red blooms are characteristic of *W. rosea*.

Watsonias are seldom used in eastern gardens because of the shortness of our growing season, but are sometimes grown in greenhouses. South, in Florida, and in California, they are frequently seen. Mrs. J. H. Bullard, of Los Angeles, has developed many remarkable hybrids of a wide color-range. In the Southwest, they are grown like gladiolus. The corms are planted five inches deep and prefer rich soil. Store them over winter in a frostproof place.



Zephyranthes grandiflora (carinata)

blooms in mid-August. It is native in many parts of the South and can endure mild winters south of Philadelphia.

Zephyranthes grandiflora (carinata) is often grown out-of-doors in pots sunk in the ground. This Fairy-Lily, which blooms in August, requires storage over winter in a frostproof cellar.

ZEPHYRANTHES

Some early botanist named these dainty Amaryllids *Zephyranthes*, which means flower of the west wind. More than fifty species are known, but few of them are sufficiently hardy to withstand eastern winters.

One of the most satisfactory species for the rock-garden is *Zephyranthes Atamasco*, the Atamasco- or Swamp-Lily, a large, white-flowering kind which



Zephyranthes Atamasco

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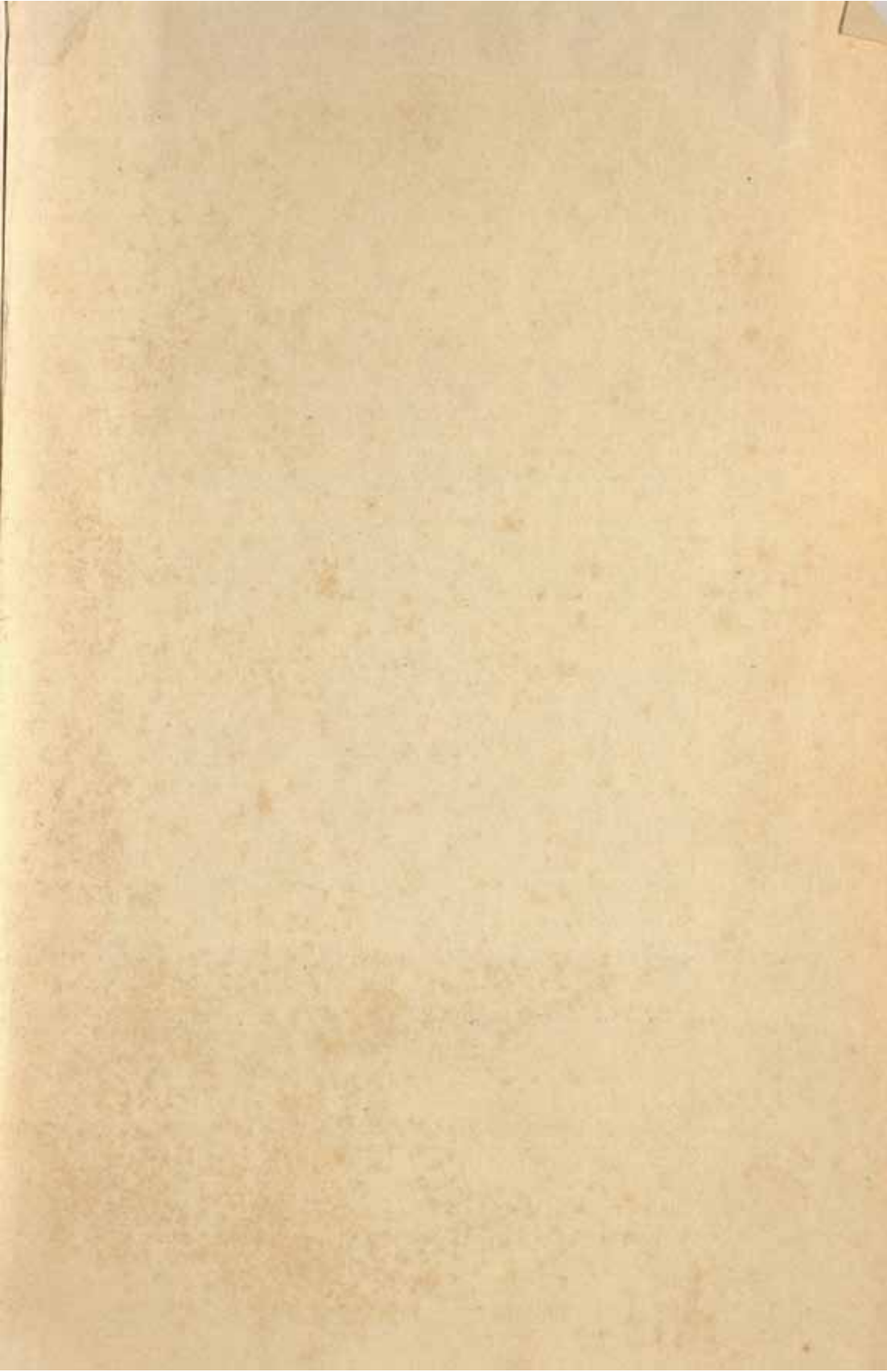
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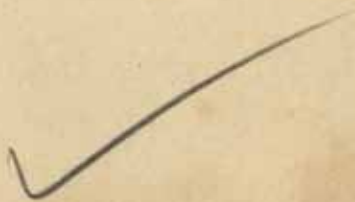
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